

AN APPLICATION OF CROSS'S CHAIN-OF-RESPONSE MODEL
FOR DESCRIBING FACULTY WHO PARTICIPATE IN
PROFESSIONAL DEVELOPMENT ACTIVITIES

By

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To my husband, Charles, my son, Ryan, my daughter, Elizabeth,
and our families

In memory of my father, the Reverend Ralph W. Buchanan

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Abstract of Dissertation Presented to the Graduate School of the
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by

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This study was an effort to determine whether the university faculty who participated in organized professional development activities could be described using Cross's Chain-of-Response (COR) Model. Two questions were addressed: (a) Does the operationally defined model provide adequate information to explain participation or non-participation? (b) Does the operationally defined model provide adequate information to explain the level of participation for those who participate?

In her COR Model, Cross portrayed participation in learning activities as a result of a chain of responses rather than a single act. Her continuum began with self-evaluation and attitudes about education and continued through importance of goals, life transitions, opportunities and barriers, and information--culminating in participation.

The study was completed in three phases. First, the COR Model was adapted to describe faculty who participate in structured professional development activities. Second, an interview schedule

and a Likert-style questionnaire were developed to determine the utility of the model. Third, both instruments were administered to two groups of University of Florida faculty--participants and non-participants in professional development activities on computer technology.

Data gathered from the faculty were analyzed and compared to the COR Model. The statistics used to analyze the data were median scores, percentile rank, Spearman rank correlations, and the chi-square test of significance.

Results of the study provided support for the following conclusions:

1. Motivation of faculty members to participate in learning activities related to computer technology depended largely on goals and expectations. Motivated faculty were likely to seek educational opportunities and overcome barriers. Conversely, barriers were likely to preclude the participation of weakly motivated faculty. Motivated faculty remembered more information about professional development opportunities on computer technology. Thus, participants differed from non-participants primarily on their stance on three constructs: goals and expectations, opportunities and barriers, and information.

2. A high level of participation in professional development activities was an indication that the majority of the constructs in the COR Model were positive descriptors of the faculty member. Conversely, low or non-participation in such activities indicates that few if any of the constructs were positive descriptors of the individual.

CHAPTER I INTRODUCTION

After a careful review of the literature, K. Patricia Cross (1981, p. 109) noted that theory in adult education was almost nonexistent. She quoted others who shared her opinion: Boshier (1971) called adult education a "conceptual desert" (p. 3) and Mezirow (1971) called the absence of theory a "pervasively debilitating influence" (p. 135). In her book Adults as Learners (1981), Cross developed a Chain-of-Response (COR) Model for understanding participation in adult learning activities. While Cross admitted that the model was still "far from the kind of theory that can be used to predict who will participate in which learning activities" (p. 124) she pointed out its usefulness in organizing existing knowledge and in suggesting more sharply focused research projects.

Background of the Study

The COR Model (Cross, 1981, p. 112) was based on the work of four scholars of adult learner motivation: Harry L. Miller, Kjell Rubenson, Roger Boshier, and Allen Tough. The focus of the research of the first three theorists was on participation in organized classes; Tough examined anticipated benefits of self-directed learning projects. A brief description of the models developed by these men is presented in the paragraphs following as a basis for understanding the conceptual framework Cross designed to identify variables relevant to

participation in a learning activity and to hypothesize the interrelationships of the variables.

Miller (1967) examined the relationship between social class and participation in adult education activities. To explain why there were differences in participation between groups with different socioeconomic status and different expectations from participation, Miller utilized Maslow's hierarchy of needs and Lewin's force field analysis.

Rubenson (1977) developed an expectancy-valence paradigm which was an application to adult education of Vroom's expectancy-valence theory. In Rubenson's paradigm, the strength of an individual's motivation was determined by combining positive and negative forces which existed in the individual and his or her environment.

In his congruence model, Boshier (1973) portrayed motivation as a function of the interaction between internal psychological factors and external environmental variables. He concluded that

both adult education participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self-concept and key aspects (largely people) of the educational environment. Nonparticipants manifest self/institution incongruence and do not enroll. (p. 260)

Tough and his colleagues (Tough, Abbey, & Orton, 1980, pp. 1-5) examined the conscious focus involved in motivation for learning. Their model classified anticipated benefits of participating in self-directed learning projects into three categories of personal feelings: pleasure (happiness, satisfaction, enjoyment, feeling good), self-esteem (regarding self more highly, feeling more confident, maintaining self-images), and "others" (others regard the individual more highly, praise the person, like the person, feel grateful). They

identified five stages at which these benefits could be anticipated. The stages were (a) engaging in a learning activity, (b) retaining the knowledge, (c) applying the knowledge, (d) gaining a material reward such as a promotion or raise, and (e) gaining a symbolic reward such as a credit or degree.

The COR Model, presented in Figure 1, was built on the common elements of these four theorists. In her model, Cross (1981, pp. 124-125) portrayed participation in learning activities as a result of a chain of responses rather than a single act. She suggested that the continuum involved a movement from the internal condition of self-evaluation through increasingly external conditions of evaluating one's position in his or her environment--finally culminating in participation. The other variables (or sets of variables) she included were attitudes about education, importance of goals, life transitions, opportunities and barriers, and information. Participation in a learning activity was shown to result ultimately in a changed self-evaluation and attitude about education. While Cross portrayed the primary movement as beginning with self and moving outward, she pointed out that the forces flow in both directions in any interaction.

Though the COR Model was helpful in understanding some of the dynamics of a decision by a learner to become involved in adult education, and while narrower models of adult participation which have been measured were incorporated in the model, there remained a need for further development of the model in order that its utility for explaining adult education participation could be enhanced. Cross (1981), while acknowledging the limitations of her conceptual

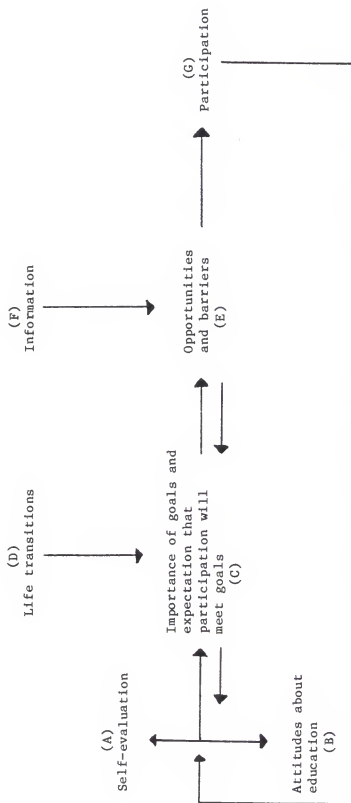


Figure 1. Chain-of-Response (COR) Model for understanding participation in adult learning activities (from Adults as Learners by K. Patricia Cross, 1981, p. 124). Reprinted by permission of the publisher.

framework (p. 124), called her conceptual framework "a theory of adult motivations for learning" (p. 112). She included a set of related constructs (which she called variables) in her theory; however, she did not operationally define the constructs. Hall and Lindzey (1957) in their classic definition of theory pointed out the two necessary ingredients of a useful theory: "A theory consists of a set of related assumptions [constructs] concerning the relevant empirical phenomena and empirical definitions [operational definitions] to permit the user to move from the abstract theory to empirical observation" (p. 15). Hence, the expansion of her model to include constructs which were both constitutively and operationally defined and the development of a technique to examine the utility of the model for a sub-group of adults were addressed by this study.

Problem Selected for Study

The problem addressed in this study was to determine whether it was possible to describe college and university faculty members who participate in organized professional development activities using Cross's Chain-of-Response Model. In order to determine the utility of the COR Model, the following questions were addressed: (a) Does the operationally defined model provide adequate information to explain participation or non-participation? (b) Does the operationally defined model provide adequate information to explain the level of participation for those who participate?

Delimitations of the Study

This study was confined to adult motivation as presented by Cross and the works of the four researchers she identified as the basis for her COR Model. Reference to the works of other scholars of adult education or motivation theory were included only if their inclusion further clarified or deepened understanding of the concepts involved in the COR Model. Furthermore, while the COR Model applied to the total adult population, this study was delimited to a sub-population of adults who were faculty members at postsecondary educational institutions.

This study was exploratory in nature, and no claim was made for predictive validity. Cross has pointed out that the model has not yet been developed sufficiently to be used for prediction of participation. The technique developed also was not designed as a predictor of participation; but rather, the technique was used to determine if the COR Model demonstrated potential.

Purposes of the Study

This study addressed the motivation of college and university faculty toward participation in professional development. An increased understanding of why some faculty participate in development activities while others do not may have important implications for the design of professional development programs and perhaps even for the hiring practices of educational administrators who are faced with the challenge of keeping their faculty current. The Second National Assembly of the American Association of Community and Junior Colleges

(cited in O'Banion, 1977) emphasized the need of professional development in its recommendations.

The staff of a college is its single greatest resource. In economic terms, the staff is the college's most significant and largest capital investment. In these terms alone, we affirm that it is only good sense that the investment should be helped to appreciate in value and not be allowed to wear itself out or slide into obsolescence by inattention or neglect. (p. viii)

The problems of the faculty member staying current within his or her discipline are now compounded in the face of new and more diverse student populations who challenge the values and styles of traditional teaching and, moreover, by "the first great technological revolution [computer technology] in five centuries" (The Carnegie Commission on Higher Education, 1972, p. 1). In addition to making data for decision making available to administrators who are charged with faculty renewal, the design of a technique which can be utilized to test the COR Model with this population of adult learners may contribute to the development of procedures for determining the appropriateness of the COR Model for other voluntary adult learner populations.

Assumptions of the Study

An assumption of the COR Model and of this study is that the individual has control over his or her destiny, and that his or her participation in learning activities is voluntary. The model rejects "both the Freudian notion that human beings are the captives of subconscious forces and the Skinnerian contention that people are pawns in stimulus-response chains" (Cross, 1981, p. 123).

Definition of Terms

Adult education. For this study, the definition of Rubenson (1977) is used. "All education embarked on by the individual after previously completed or discontinued basic education, usually after an intervening period of job experience" (p. 2) falls under adult education.

Card questions. This is a technique used by researchers to help correct a distortion in the data collected caused by the order of the question. Items to be ranked are placed on 3 x 5 cards, one item to a card. The cards are shuffled after each interview and handed to the respondents, and he or she arranges them in the order of preference.

Coding of data. This is a technique used by researchers to categorize data. A number or symbol is assigned to each answer which falls in a predetermined class.

Construct. A construct is a concept (an abstraction formed by generalization from particulars) which has been deliberately included in a theoretical scheme and which is related within the theoretical scheme to other constructs. Constructs are defined constitutively and operationally. A constitutive definition uses other constructs to define a construct, whereas "an operational definition assigns meaning to a construct or a variable by specifying the activities or 'operations' necessary to measure it" (Kerlinger, 1973, p. 34).

Expert in social research. For this study, the expert is an individual with experience in interview schedule construction.

Faculty development. As used in this study, the term includes all organized activities designed to help faculty members acquire

knowledge, within their discipline; improve skills, sensitivities, and techniques related to teaching and student learning; and become more productive researchers. Typical activities include course work, seminars, and workshops.

Instructional development. This term includes all organized activities designed to improve student learning, prepare learning materials, redesign courses, or make instruction systematic. Typical activities include workshops on writing objectives and projects to produce new learning materials or redesign courses.

Interview schedule. This data collection instrument is filled in by an interviewer who reads the questions to the respondent. The interview schedule equates to a questionnaire that is administered orally.

Item. An item is a question in the interview schedule.

Multiple choice questions. Included in this category are questions which are framed so that the respondent must select one of several possible answers to represent his or her opinion or select one to come closest to that opinion.

Open-ended questions. Questions which give the respondent free latitude in his or her responses are included in this category.

Organizational development. These activities are designed to create an effective environment for teaching and learning, improve interpersonal relationships, or enhance team functioning within the educational institution or subunit of the institution. Typical activities include workshops for group leaders or team members, action research with work groups, and task forces to revise organizational policies.

Professional development activities. Organized activities which fall under faculty development, instructional development, or organizational development are included in this category.

Tabulation. This term is used to denote the summarization of results in the form of statistical tables.

Theory. "A theory consists of a set of related assumptions [constructs] concerning the relevant empirical phenomena and empirical [operational] definitions to permit the user to move from the abstract theory to empirical observation" (Hall & Lindzey, 1957, p. 15).

Triangulation. Triangulation is the technique recommended by Patton (1980) for verification and validation of qualitative analysis. For this study it involved "checking out the consistency of findings generated by different data collection methods" (p. 329).

Variable. Cross loosely called her constructs variables. For this study, however, a variable is defined as a symbol to which numbers or values are assigned. Thus variables are measurable.

Design of the Study

This study was completed in three phases. In the first phase, the COR Model was adapted by defining the model's constructs both constitutively and operationally to describe faculty who participate in structured professional development activities. The second phase included the development of a technique for determining the utility of the adapted model for distinguishing between participating and non-participating faculty. This phase was divided into (a) interview schedule construction, (b) interview guideline development, (c) pretest of the schedule, and (d) analysis of data from the pretest.

During the third phase, the technique developed in Phase II was used to determine if there were differences between participating and non-participating faculty at the University of Florida.

Phase I: The COR Model and Construct Development

This phase of the study included an analysis of Cross's COR Model and the contribution of the four scholars identified by Cross as the basis of her model. The works of the four scholars were compared and contrasted with the description of the Cross model. Then, through a logical-deductive process, underlying constructs of the COR Model were projected and defined constitutively and operationally. The constructs were adapted to describe faculty in postsecondary institutions who would involve themselves in structured professional development activities.

The constructs developed were submitted to Cross, the originator of the model, who compared the constructs with the COR Model. She then rated the constructs' accuracy of expression. Cross was also given a set of statements which described each construct of the COR Model. She was asked to place each statement in one of three categories—(a) adequately stated and basic to the construct, (b) inadequately stated but basic to the construct, or (c) not basic and/or not representative of the construct—to indicate her judgment of how accurately the statement represented that construct. Cross needed to choose "adequately stated and basic to the construct" in order for the statement to be developed into an item used for the interview which is described in Phase II.

Cross suggested alternative definitions for inadequately defined constructs and alternative statements which described the constructs if she believed the definitions and/or statements were inadequately stated. Cross was also asked to identify any aspects of the constructs she believed were basic but not already included on the list of statements. These statements were added to the list. All proposed statements which received the rating of "not basic and/or not representative of the construct" were discarded.

Phase II: The Development of a Technique for Determining the Utility of the Adapted Model

An interview schedule, a data collection instrument which is completed by an interviewer who reads the questions to the respondent, was developed to measure the adapted COR Model constructs. The interview schedule was a combination of open-ended questions, multiple choice questions, and a ranking of items. The statements which Cross agreed adequately described the constructs of the model were used to develop interview questions. Only questions which had a direct bearing on the constructs of the COR Model and which could not be answered more accurately and effectively from other sources were included in the interview schedule.

To insure that the data obtained on the adapted version of the COR Model would be worth analyzing, the processes by which the information was obtained were controlled. All significant elements of the interview situation—the interviewer, the surroundings of the interview, the respondent, and the process of questioning and

recording--were described in interview guidelines. Then a draft of the interview schedule was pretested. Any needed changes were made in the schedule and in the guidelines for its administration before the pilot test was carried out.

Phase III: Test of the Adapted Model

After problem areas had been corrected, the interview schedule was administered to a sample of faculty who had recently chosen to participate in some structured professional development activity and a second sample who had not. The population sampled was the University of Florida faculty. Fifteen-member samples were randomly selected from each group. The interviews were conducted using the interview guidelines established during Phase II of the study.

The data gathered for this descriptive study were both qualitative and quantitative, but primarily qualitative. The procedures for analysis of qualitative data which were outlined by Miles and Huberman (1984a, 1984b) were utilized. The analysis of data consisted of three concurrent activities: data reduction, data display, and conclusion-drawing/verification.

Data reduction involved coding, selecting, focusing, simplifying, abstracting, and transforming the raw data from edited field notes. Data reduction was not limited to quantification. Other ways qualitative data were reduced and transformed included selection, summary, paraphrase, and patterning. Data display, defined as "organized assembly of information that permits conclusion-drawing and action-taking" (Miles & Huberman, 1984, p. 24), included the development of a wide range of matrices, graphs, networks, and charts.

Conclusion-drawing began with data collection as the researcher noted regularities, patterns, explanations, possible configurations, causal flows, and propositions. Initially, the conclusions were vague and tentative. They became increasingly explicit and grounded as data reduction and display revealed a logical chain of evidence and conceptual/theoretical coherence. Conclusion verification tactics included making contrasts/comparisons, checking the meaning of outliers, looking for negative evidence, and argumentation and review to develop intersubjective consensus. Also, methodological triangulation was used for verification by comparing data from interviews with data from a Likert-style instrument which measured the same constructs.

Statistics which were used to differentiate between the two groups were median scores, percentile rank, and Spearman rank correlations. The chi-square test was used to determine significance.

Organization of the Dissertation

This dissertation consists of five chapters. Included in Chapter I is the introduction, a statement of the problem, delimitations and limitations, a justification for the study, assumptions, definitions of major terms, and the design of the study. In Chapter II, Part 1 is a review of the literature of the precursor theory of the COR Model. Presented in Part 2 are (a) a review of the COR Model and (b) a comparison and contrast of the works of each of the four precursor models with Cross's model. This literature analysis serves as the basis for the adaptation of the COR Model into constitutively and operationally defined constructs which describe postsecondary faculty

who participate in structured professional development activities. The development of the technique for testing the utility of the adapted model is included in Chapter III. Described in subsections of this chapter are the interview schedule construction and interview guidelines. In Chapter IV are a description of the use of the technique described in Chapter III with faculty at the University of Florida and the analysis of data gathered by the interviews. The conclusions of the study, suggested implications, and recommendations for further research are included in the final chapter (Chapter V).

CHAPTER II

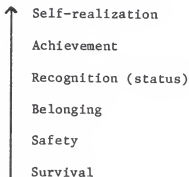
THE COR MODEL AND ITS PRECURSOR THEORIES

Cross based her COR Model on the work of four researchers in the area of adult education: Miller, Rubenson, Boshier, and Tough. While the work of these men had many common elements, each person identified a slightly different set of variables and utilized a different technique for measuring motivation. The work of each scholar is viewed individually.

Part 1: The Precursor Theories

Harry L. Miller: Force Field Analysis

Miller (1967) drew heavily on Maslow's hierarchy of needs and socioeconomic status to explain participation in adult education classes. He presented the stages of Maslow's hierarchy with survival needs being the most basic and self-realization topping the hierarchy as follows:



Miller (1967) defined the three most fundamental needs from Maslow's scheme in terms of the industrial society:

Survival [underline added], in whatever terms the person sees it, comes before the activation of higher needs, and in industrial societies we tend to see it as a gain of marketable skills. Because rapid technological development results in shifts in skill demands, adult education is dominated by job training, where one finds the highest consistent level of participation.

The safety need reinforces this domination because in this culture the greatest perceived deprivation is an economic one, and the most general threat is the loss of a job.

Belonging needs draw us into a whole range of associations from deep emotional needs we seek to satisfy in marriage to the pervasive needs for acceptance by the members of whatever groups are important to us. (p. 5)

The higher order "ego needs," according to Maslow's scheme, became powerful motivators only when the basic ones were at least minimally satisfied. Miller used this principle to explain why recognition was a high motivator for participation in courses leading to educational advancement for the middle class, "which need not be greatly concerned about either survival or safety, and whose stable family structure and active organizational life provide adequate satisfaction of belonging needs" (p. 6). Achievement needs Miller described as more generally distributed across classes and perhaps only indirectly related to participation in adult education: "higher levels of education are associated with a considerable degree of persistence toward relatively distant goals, which in turn is associated with high levels of achievement need" (p. 6). He said the need for self-realization, a drive that moves an individual towards being the most he is capable of being, was rarely a dominant need; however, many persons "are engaged in satisfying it at least fitfully" (p. 7).

Miller also looked at the congruence of Maslow's hierarchy with age and the life cycle. "The early stages of adulthood," he argued, "are primarily concerned with satisfaction of the three lowest stages--getting established in a decent, stable job and beginning a family" (p. 7).

While Miller (1967, p. 8) emphasized the role personal need plays in adult participation, he asserted that one must consider the interaction of personal needs with relevant social variables in order to get an accurate assessment of the forces at work in the whole environment. The three social variables which he identified as particularly relevant were social class value systems, technological change, and associational structures. Miller then described several studies of the effects of socioeconomic status on participation in educational activities. Since an assumption of this writer is that postsecondary faculty fall into the middle classes, only the information relevant to those classes was reviewed.

According to Miller (1967), the socioeconomic status needs of the lower-middle class were almost all sustaining forces in relation to adult education participation. Included in the value system of this group was an emphasis on mobility and status. "Progress" was viewed as good "not only because it demonstrates our virtue as a society, but because it offers hope for family movement as well" (p. 11). Education was seen as the means of achieving status. In addition, some members of the lower-middle class adopted the upper-middle class values of "concern with self-development and achievement, apart from any status these confer" (p. 12). This was a result of what

sociologists called "anticipatory socialization," when members adopt the values of the class they are striving to reach.

Both the lower- and upper-middle class cultures were future-oriented, Miller (1967, p. 12) reported; and while their needs were congruent with the major forces of the society, there were some striking differences in values between the two classes. The upper-middle's interest in career achievement transcended an interest in status, and they actively pursued self-development activities. Also, their cosmopolitan interests directed their attention to national and international associational concerns as opposed to community and local ones.

Miller also pointed out that there were actually two upper-middle cultures: the executive and the professional. The executive class value system was closer to the Puritan ethic of the lower-middles, while the professional class values embraced relativism and tolerance of others' values. Yet, the sustaining forces for both of the upper-middle classes' participation in adult education were strong. Miller elaborated:

The upper-middles create and implement the technological shifts which provide either trouble or opportunity for other social class levels, education is a comfortable and familiar tool for "keeping up with the field" and improving skills, and the corporation and firm pays for it. (p. 13)

(See Appendix A for force field diagrams which represent the positive and negative forces present in the motivation of the middle class toward vocational competence, personal and family competence, citizenship competence, and self-development.)

Kjell Rubenson: Expectancy-Valence Paradigm

Rubenson (1977), as Miller did, viewed participation in adult education as one of many forms of social participation and turned to the behavioral sciences for existing theories upon which he could develop a recruitment paradigm. While Miller drew primarily from Maslow (hierarchy of needs) and Lewin (force field analysis) as he developed his theory, Rubenson drew heavily on Vroom's expectancy-valence theory and Lewin's field theory. In order to clarify Rubenson's paradigm, a brief description of the expectancy-valence theory and field theory is presented.

As reported by Rubenson (1977), Vroom defined valence as an attitude toward the result of an action. If the person preferred attaining the result of an action, the valence was positive; if the person was indifferent to the outcome the valence was neutral; and if the individual preferred not to attain the outcome, the valence was negative. The valence varied from +1 to -1. The difference between valence and value was emphasized. Valence was said to be associated with the person's previous belief concerning the outcome that would result from a particular course of action. Value, on the other hand, was said to be related to the satisfaction to which the action led (p. 8).

Rubenson (1977) quoted Vroom's definition of expectancy as follows:

[Expectancy is] a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome. Expectancies may be described in terms of their strength. Maximal strength is indicated by subjective certainty that the act will be followed by the outcome while minimal (or zero) strength is indicated by subjective certainty that the act will not be followed by the outcome. (p. 9)

Rubenson (1977) applied the expectancy-valence theory to recruitment of adult learners as illustrated in Figure 2.

sees participation in adult education
as a conceivable means of satisfying
experienced needs (valence)



believes himself to be in a position
to complete and successfully cope
with a course, and believes that
participation will have certain
desirable consequences (expectancy)



high probability
of participation

Figure 2. Expectancy-valence theory applied to recruitment in adult education (from Participation in Recruitment Education: A Research Review by Kjell Rubenson, 1977, p. 9.

Rubenson (1977) then analyzed the concepts of valence and expectancy in order to complete his paradigm of recruitment for participation in adult education. He summarized recent findings of previous research in the areas of participation in adult education, self-evaluation, and values of member groups and reference groups. He then concluded that "self-evaluation (which is influenced by the degree of hierarchic structure [perceived freedom for decision making] and the values of the member and reference groups are of great importance in shaping a person's attitude to adult education" (p. 30).

In Rubenson's Paradigm of Recruitment, presented in Appendix B, participation in adult education was regarded as a function of the individual's interpretation of the current psychological field. The paradigm included three groups of independent variables: previous experience and congenital properties, environmental factors, and current needs. A cognitivist, Rubenson believed that a person's actions must be explained in terms of perception--how the individual perceives and interprets his or her situation. Rubenson's two levels of intermediate variables reflect his orientation. As shown in Appendix B, the first level of intermediate variables (active preparedness, perception, and interpretation of the environment and experienced needs) were said to determine expectancy and influence valence. Expectancy was assumed to be a multiplicative function of (a) the expectation that participation would have certain positive consequences and (b) the expectation of being able to participate in and complete the course of education. Thus, if the individual saw no possibility of achieving either component of expectancy, that component was said to assume the value of 0; and consequently, the resultant force toward participation was assumed to be 0. The valence of a certain course of study was presented as a result of the experienced needs of the individual (the second level of intermediate variables) and expectations concerning the consequences of participation and the values of the member and reference groups.

Valence and expectancy were then said to form a multiplicative function which results in a force. "The strength of this force in relation to other forces acting on the individual," Rubenson said, "determines whether the individual will participate in adult education

or not" (1977, p. 38). Again, the multiplicative function implied that both valence and expectancy must exist in order for a force to arise.

Roger Boshier: A Congruence Model

Like Miller and Rubenson, Boshier (1973) rejected single variable explanations which have been proposed to explain adult education participation and dropout. He contended instead that "'congruence' both within the participant and between the participant and his educational environment determines participation/non-participation and dropout/persistence" (p. 256). As evidence of support for his position, he offered data from participants enrolled in continuing non-credit classes in New Zealand. Boshier's model to explain adult education participation and dropout is found in Appendix C.

Boshier characterized all participants as "deficiency" or "growth" motivated. He described growth-motivated people as "inner-directed, autonomous, open to new experience, willing to be spontaneous, creative. . . . The self-actualizing growth-motivated person, by definition gratified in his basic needs, . . . is better equipped to adapt to environmental inconsistency and disorder" (1973, pp. 256, 258). Determinants which governed them were primarily inner ones, rather than social or environmental. In contrast, deficiency-motivated people are impelled by social and environmental pressures. They "seem to use work and educational activity more often for achieving gratification of lower basic needs, . . . as means to an end, or as a response to cultural expectations" (1973, p. 258). "Growth-motivated persons" were equated to Carl Roger's intra-self

congruence and thus self/other congruence and satisfaction with the educational environment, while deficiency motivation was presented as synonymous with intra-self (self/ideal) incongruence. Boshier acknowledged that individuals were not entirely growth- or deficiency-motivated.

Boshier, in his model, presented the individual as a unified system with two problems: maintaining inner harmony within the individual and with the environment. He suggested that both "participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self-concept [explained in terms of 'deficiency' or 'growth' motivation] and key aspects (largely people) of the educational environment" (1973, p. 260). Non-participants did not enroll because of manifested self/institution incongruence; participants, upon discovering that their needs (or self-concept) and their educational environment were not congruent, dropped out. Furthermore, intra-self (self/ideal) incongruence, which was characterized by deficiency motivation, gave rise to self/other incongruence. Boshier viewed the single social, psychological, and institutional variables (e.g. socioeconomic class, age, class size, or transportation difficulties) as mediating variables which triggered dropout if intra-self or self/other incongruence had developed.

Allen Tough: Anticipated Benefits

Tough's model of anticipated benefits was different from the other models used by Cross as she developed her COR Model. First of all, his focus was on self-directed learning projects rather than

enrollment in organized classes; and second, his model was more fragmentary and incomplete than any of the other three. Cross, however, saw Tough's work as providing useful information on the conscious forces involved in motivation for learning.

In his research efforts, Tough (1971, 1978, 1979) and with his associates (1980) focused primarily on the major learning efforts of adults, called adult learning projects. He defined a major learning effort as a

deliberate effort to gain and retain a defined area of knowledge or a skill, or to change in some other way. To be included in this definition, a series of related learning sessions (episodes in which the person's primary intention is to learn) must add up to at least seven hours. . . . Any method can be included--reading, listening, observing, attending class, reflecting, practicing, getting answers to questions--as long as the person's primary intention during the learning episode was to gain and retain a defined area of knowledge or skill. (1978, p. 8)

Tough presented his framework for anticipated benefits in 1971 (p. 47); however, it was not tested until a decade later (Tough, Abbey, & Orton, 1980). Tough's model which was simplified in order to collect data for the 1980 study is included in Appendix D.

The simplified model (Tough et al., 1980) included five stages where benefits might be anticipated: (a) engaging in a learning activity, (b) retaining the knowledge or skill, (c) applying the knowledge, (d) gaining a material reward (e.g., promotion or raise), or (e) gaining a symbolic reward (e.g., credit or degree). The benefits which might be anticipated at each stage were categorized into three clusters of personal feelings: pleasure, self-esteem, and others. Tough and his colleagues defined these clusters as follows:

"Pleasure" can include an increase in happiness, satisfaction, enjoyment, or feeling good—or avoiding some unpleasant feeling. "Self-esteem" means you regard yourself more highly, feel more confident, maintain your self-image,

or avoid damaging your self-esteem. "Others" means other persons regard you more highly, praise you, like you more, feel pleased with you, or feel grateful to you. (p. 4)

Data for the study were collected from adults in metropolitan Toronto. Each study participant was first asked to think of a learning activity (preferably not a credit course) that they were enthusiastic about and that was still in progress. After the model was explained, each respondent was then asked to distribute 10 imaginary motivational units on the diagram "in whatever pattern would best reflect the anticipated benefits [pleasure, self-esteem, others] that actually motivated them to continue this learning effort" (p. 5). The subjects identified the "application of knowledge or skill" as the most likely stage for anticipated benefits. The other stages were selected in the following order: "engagement in learning activities," "retention of knowledge," "material reward" and "credit." "Pleasure" was the most frequently anticipated reward, followed by "self-esteem" and "reaction from others."

Part 2: The COR Model

Cross proposed her Chain-of-Response Model to explain participation in adult learning activities. While her description of participation included all adults involved in adult learning activities, this study focused on those adults who were faculty at postsecondary educational institutions and who engaged in structured professional development activities. Therefore, the description of the model was adapted to describe this sub-population.

Cross included seven constructs in the COR Model: (a) self-evaluation, (b) attitudes about education, (c) importance of goals and

expectation that participation will meet goals, (d) life transitions, (e) opportunities and barriers, (f) information, and (g) participation. For this study, the two parts of constructs (c) and (e) were treated as separate but closely related constructs (see Table 1). Each construct was addressed individually and a comparison/contrast was made between Cross's description of the construct and descriptions given in precursor theories. Finally, a constitutive and operational definition was extended for each construct.

Self-Evaluation

Cross and the four earlier educators each described the impact he or she believed self-evaluation had on participation in adult learning. All emphasized the relationship between positive self-evaluation and participation.

Tough and his associates (1980, pp. 7-8) found that motivation for participation in adult learning projects came from the desire to enhance pleasure (50% of participants) and self-esteem (41% of participants). Only 9% of the persons in his study indicated their desire to please and impress others.

Boshier, who did extensive research on adult student behavior, described participators/persistors as growth motivated, inner directed, autonomous, open to new experience, willing to be spontaneous, creative, self-actualizing, and gratified in their basic needs. He presented them as equipped to handle environmental inconsistency and disorder since they were governed by inner

determinants rather than social or environmental ones (1973, pp. 256-259).

Rubenson (1977, pp. 20-22) came to a similar conclusion after examining a study done by Denmark and Guttentag in 1967 in which the self-perception of the subjects was directly related to participation in adult education and after examining many studies which supported the supposition that persons with a high degree of self-respect perform better in achievement-oriented situations than persons with a low degree of self-respect. Rubenson took self-concept a step further when he presented data which indicated that a hierarchic environment influenced participation in adult education. Persons who in their childhood, school, and work environments were permitted and encouraged to make individual initiatives (as opposed to being hierarchically controlled) developed a more positive self-evaluation. Rubenson concluded,

in the light of the above discussion of self-evaluation, its importance to achievement-oriented behavior and factors influencing self-evaluation, the degree of hierarchic structure in the current surrounding of the individual and especially the work situation appears to be vitally important to expectations concerning adult education. (1977, p. 25)

Miller presented the upper middle class values of concern with self-development and achievement, apart from any status these confer. Miller's theory about participation in adult education fits largely under other constructs; however, he did examine the interaction of personal needs (as described by Maslow's hierarchy) and their interaction with social class value systems (see Appendix A). He proposed that persons in the lower-middle class have satisfied the basic needs of survival, safety, and belonging. For the lower-middle class, the motivator was primarily a need for recognition (status). In

contrast, he claimed the upper-middle class valued self-development and achievement, apart from any status these confer (1967, pp. 11-13).

The constitutive definition for self-evaluation as Cross described the construct follows. The operational definition used in this study to measure the construct is also presented.

Constitutive definition. Self-evaluation is the general or global value which a person ascribes to himself as a learner. Individuals (faculty) who perceive themselves positively and have confidence in their own abilities are more likely to voluntarily participate in learning activities (professional development). Other terms used to describe persons who perceive themselves positively are self-confident, self-assured, secure, and unthreatened.

Operational definition. In this study, self-evaluation is defined operationally as how the respondent describes himself/herself as a learner. Analysis of the verbal responses of the respondent separated his or her comments into the following categories: positive or approving self-reference, negative or disapproving self-reference, ambivalent self-reference, ambiguous self-reference, and reference to external objects and persons.

Attitudes about Education

Boshier (1973) explained attitudes about education as an extension of self-evaluation. He described his growth-motivated individuals as having intra-self congruence: They had by definition satisfied their lower-order needs in Maslow's hierarchy. They welcomed rather than rejected or feared new experiences. Because of

their intra-self congruence, Boshier said they were also self/other congruent. They demonstrated an independence from the environment which was "accompanied by a relative independence from adverse external circumstances, such as poor teaching" (1973, p. 258).

Deficiency-motivated individuals, in contrast to growth motivated ones, were described as having intra-self incongruence and thus self/other incongruence. Boshier presented the person with self/other incongruence as entering a dissonant relationship which was stressful and anxiety ridden when the individual engages in an educational activity because of his or her perceived deficiency. Boshier saw the individual participant, whether deficiency- or growth-motivated, as a "unified system with two problems: maintaining harmony with himself and with the environment" (1973, p. 259). Thus, he said the deficiency-motivated (intra-self and self/other incongruent) person would either not enroll or would drop out of activities which threatened the harmony within the individual or between the individual and the environment. He asserted that "both adult education participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self concept and key aspects (largely people) of the educational environment" (1973, p. 260).

Rubenson also examined the effect of attitudes about education on participation. He reported that "self-evaluation . . . and the values of the member and reference groups are of great importance in shaping a person's attitude to adult education" (1977, p. 30). Rubenson emphasized that past experiences, while having influenced the individual's attitudes about education, were of minor importance to

participation: "the main thing is the traces they have left in the form of experience operating in the current psychological field" (1977, p. 31). Throughout Rubenson's research review, he emphasized the importance of an ahistorical approach to studying educational participation. Participation, according to the ahistorical approach, would be regarded as dependent solely upon events existing at a particular point in time.

Miller (1967) did not address attitudes about education per se. Instead, he looked at attitudes in light of goals to be achieved through education. Therefore, his ideas are discussed under a later construct. Tough and associates (1980) also did not address this topic directly.

Without defining attitude, Cross asserted that people's attitudes toward education "arise directly from the learner's own past experience and indirectly from the attitudes and experiences of friends and 'significant others'" (1981, p. 125). If they had positive attitudes as a result of successful educational experiences and if their reference groups valued education, they were more likely to participate in educational activities. For this study, a clear definition of attitude was needed. A definition of attitude which is appropriate to the use of the term as Cross used it was the stimulus-response definition given by Cattell, Radcliffe, and Sweeney (1963, pp. 62-63). They defined attitude as an individual's interest/need of a certain intensity to achieve a specific goal under a specified set of circumstances. Their definition of attitude is used here to define Cross's construct "attitudes about education" as applied to the sub-population of adults addressed in this study.

Constitutive definition. A person's (faculty member's) attitude about education is the interest of a certain intensity that he or she has in participating in educational activities (structured professional development activities). Attitudes may be positive, indifferent, or negative. The sources of a person's attitudes are the learner's own past experiences and the attitudes and experiences of friends, "significant others," and reference or membership groups.

Operational definition. In this study, a person's (faculty member's) attitude about education (structured professional development activities) is defined operationally as the individual's expressed opinion of such activities. The individual's perception of other faculty members' opinions of his or her participation is also used to indicate the intensity of the attitude. The individual's opinion of activities in computer technology will be explored as a case in point. Analysis of the verbal responses of the respondent will separate his or her comments into positive, indifferent, or negative opinions about participation in professional development activities in computer technology.

Importance of Goals and Expectation that Participation Will Meet Goals

Point C of the COR Model, importance of goals and expectation that participation will meet goals, reflects the expectancy-valence theory described by Rubenson (1977) and Vroom and Lewin before him. Rubenson (1977) and Cross (1981) equated "valence" to the importance of the goal (the result of an action) to the individual; they equated "expectancy" to the individual's subjective judgment that

(a) participation in further education would lead to a desired reward and (b) that the individual would be successful in the educational activity. Both educators described a positive correlation between motivation of the individual to participate in educational activities and "a multiplicative function [of valence and expectancy] which results in a force. The strength of this force in relation to other forces acting on the individual determines whether the individual will participate in adult education or not" (Rubenson, 1977, p. 38).

Rubenson also presented research which supported his contention that a person's goals and expectations were related to self-evaluation (and factors which influence one's self-evaluation) and attitudes of one's member and reference groups. Thus, Cross's model shows an interaction between point C and points A, self-evaluation, and B, attitudes about education, by using a reverse arrow.

Miller (1967) found that Maslow's hierarchy of needs and the socioeconomic status of an individual could be used to explain that individual's educational goals. An assumption of this study is that all faculty hold middle class socioeconomic status. However, within academic life there is a unique (special) class system based on rank and tenure. In order to adapt Cross's model to the sub-population of adults addressed in this study, both the hierarchy of needs and academic class were used to explain a faculty member's participation in professional development.

Adapting Miller's analogy, the newly appointed faculty member who has not yet gained tenure (hence in the lowest academic class) may participate in educational activities (professional development) in

order to satisfy the three most fundamental needs from Maslow's scheme:

1. Survival needs must be satisfied before the activation of higher level skills. In higher education, this translates into knowledge of subject matter. Because rapid technological development results in shifts in information and skill demands, one expects professional development to be dominated by job training.

2. Safety needs reinforce the domination of professional development activities by job training because in the industrial society the greatest perceived deprivation is an economic one, and loss of job is the most general threat.

3. Belonging needs cover a wide range of associations including the pervasive needs for acceptance by the members of one's department and other groups which are important to the faculty member.

For tenured faculty who have not achieved full professor status (the middle academic class), the higher order "ego needs" of Maslow's scheme become powerful motivators. Therefore, recognition is expected to be a high motivator for participation in courses leading to educational advancement. Miller (1967, p. 6) described achievement as generally distributed across all social (for this study "academic") classes and only indirectly related to participation in adult education (professional development).

The need for self-realization, a drive that moves an individual towards being the most he is capable of being, is rarely a dominant need. However, the interest in career achievement of senior faculty

members who hold full rank can transcend an interest in status, and these faculty members actively pursue self-development activities. Yet, the sustaining forces for professional development for the professors who have established themselves are strong. In their leadership positions within the department, they create and implement the technological shifts which provide either trouble or opportunity for other faculty members. They see education (professional development) as a comfortable and familiar tool for staying abreast of developments within their field and for improving skills.

Boshier (1973) characterized all participants in adult education as deficiency or growth motivated. Carrying the "academic class" analogy through Boshier's characterization of participants, non-tenured faculty members who have not yet established themselves in their departments are deficiency motivated. They participate in educational activities for achieving gratification of lower basic needs, as a means to an end, or as a response to cultural expectations. In contrast, the tenured faculty are governed primarily by inner determinants rather than environmental or social ones: This is true of full professors even more than tenured faculty who have not attained that status.

Tough et al. (1980) in his model of anticipated benefits divided what Cross called "goal" into three clusters of personal feelings (benefits) and five stages where benefits might be anticipated. The three clusters of personal feelings he named were (a) pleasure (an increase in happiness, satisfaction, enjoyment, or avoiding some unpleasant feeling), (b) self-esteem (maintained or improved self-confidence), and (c) others (higher regard for individual by

significant others). The stages where benefits might be anticipated were (a) engaging in a learning activity, (b) retaining the knowledge or skill, (c) applying the knowledge, (d) gaining a material reward (e.g. promotion or raise), or (e) gaining a symbolic reward (e.g. credit or degree). Cross (1981, p. 122) acknowledged that Tough's model was fragmentary and incomplete; however, she saw Tough's work as providing useful information on the conscious forces involved in motivation for learning.

Point C in Cross's model (importance of goals and expectation that participation will meet goals) actually included two different but interdependent constructs: goals and expectancy. Motivation is strong at point C only if the individual believes a goal important to him or her is likely to be achieved through participation in an educational activity. Motivation decreases accordingly as a goal is less important to the individual or if the likelihood of success is in doubt. The constitutive and operational definitions of each of these constructs are presented separately.

Construct: goals

Constitutive definition. A goal is an objective or end that one strives to attain. The goals of an individual are derived from his or her experienced needs. The dimension of personal need follows Maslow's hierarchy of need with major participation in professional development activities aiming at the satisfaction of lower need levels (survival, safety, and belonging) and tapering off at higher levels (recognition, achievement, and self-realization). Other forces which strongly affect goals are one's social class (adapted to academic

social class), technological change, and associational structures. The importance of a goal to an individual is expressed as valence (an affective attitude toward the result of an action). If the individual prefers attaining the result, he or she has a positive valence. Indifference toward the result is neutral valence, and negative valence indicates the person prefers not to attain the result.

Operational definition. For this study, a goal is a desirable educational objective for which the individual is willing to exert effort. The desired objective could be increased rank or recognition or acquiring a skill. Goals identified by the faculty member were categorized using Maslow's hierarchy of needs and faculty member's academic social class.

Construct: expectancy

Constitutive definition. Expectancy is defined as a multiplicative function of two components--the expectation by the individual that he or she could successfully complete an educational activity and the expectation that his or her participation in that activity would result in certain positive consequences, namely, the accomplishment of or major movement toward the accomplishment of a goal.

Operational definition. In this study, expectancy is the confidence expressed by the faculty member that his or her participation in a professional development activity will assist with the achievement of a goal he or she has established. Expectancies were described in terms of their strength. Subjective certainty that participation would be followed by a positive outcome indicated

maximal strength while subjective certainty that participation would not be followed by a positive outcome indicated minimal (or zero) strength.

To determine the faculty members' expectations of successful participation, statements concerning their preparedness for the activity and concerning their perception of control of their current situation (hierarchic structure) were categorized. Statements concerning "deficiency" or "growth" motivation for participation were used to identify self/other incongruence and thus non-participation. Indicators that the faculty members expected desirable consequences included (in addition to a straightforward statement concerning consequences) statements about the members' current situation (hierarchic structure), values of the member and reference groups, and knowledge of professional development activity possibilities.

Life Transitions

Cross (1981) when describing point D of her COR Model, life transitions, presented two rather different streams of research and theory: phases of the life cycle and developmental stages of growth and maturity. Life phases she described as qualitatively different periods through which people pass from birth to death. These phases were usually related to age and changing social expectations and could be viewed as a horizontal progression through life situations. Developmental stages, however, referred to an adult's continuous flow toward growth and maturity and involved vertical progression from simple to complex capacities.

While many researchers and theorists on adult life cycles presented mixed images of these two streams, Cross emphasized the distinctions because of the

profoundly different implications [for education] depending on whether one is talking about developmental stages or life-cycle phases. Whereas an educator might legitimately wish to help or encourage an individual to achieve a more advanced stage of ego development, the same case cannot be made for an educational goal of phasic development. The more likely role for an educator in phasic development is to assist with transitions and to help individuals adapt to the phase of the life cycle that is appropriate for their age and social role. (1981, p. 169)

There was not much written on life transitions by the researchers whose works Cross credited as the foundations of the COR Model. Rubenson and Miller described life transitions and the role they played in motivation toward adult education very briefly while this construct was not mentioned by Boshier or Tough. Rubenson (1977) explained that the identification of the individual's position in the life cycle and the demands the individual was subjected to in his or her particular role determined the needs which the individual experienced as dominating. Miller (1967) claimed not only that there was congruence between Maslow's need hierarchy and the pattern of participation in adult education and with social class differentiations but also that Maslow's need hierarchy showed congruence with age and the life cycle. He argued that

the early stages of adulthood are primarily concerned with satisfaction of the three lowest stages--getting established in a decent, stable job and beginning a family. As the cycle proceeds, the older person begins to devote energy to achieving status . . . , and to achievement in his field of work (the highest level of productivity is not reached until the forties and fifties). It is the rare person who begins to think about the meaning of his own life as the value of selfhood before he reaches his forties. (1967, p. 7)

Cross's presentation on this construct was much more thorough than her presentation of the constructs previously discussed. She summarized numerous studies before presenting her matrix titled Descriptions of Life-Cycle Phases (see Table 1) which was her synthesis of classification schemes that used chronological age as a rough index to life-cycle phase.

Cross also presented a series of studies that have resulted from developmental stage research. Because Cross did not synthesize the developmental stages nor is there one widely recognized scheme, Loevinger's (1976) concept of ego development was selected to be presented in this study. Her concept was chosen because she defined stages of growth of the individual's personality and the concept was more inclusive than the schemes of moral or intellectual development. Loevinger's scheme also was appropriate because it focused on self-evaluation and paralleled Maslow's hierarchy of need. Her scheme titled "Milestones of Ego Development" is included as Table 2. Even though Cross (1981) pointed out the relationship between the gradual transitions of developmental stages and the more dramatic transitions of life-cycle phases, she included only life-cycle phases under point D of her model. She saw developmental stages as too gradual to be termed life transitions.

In this study, the reason for identifying an individual's current life cycle phase was to determine if the individual was undergoing a transition. Cross postulated that sudden transitions serve as forces for learning. The constitutive and operational definitions of life transitions follow.

Table 1

Descriptions of life-cycle phases

Phase and Age	Marker Events	Psychic Tasks	Characteristic Stance
Leaving Home 18-22	Leave home Establish new living arrangements Enter college Start first full-time job Select mate	Establish autonomy and independence from family Define identity Define sex role Establish new peer alliances	A balance between "being in" and "moving out" of the family
Moving into Adult World 23-28	Marry Establish home Become parent Get hired/fired/quit job Enter into community activities	Regard self as adult Develop capacity for intimacy Fashion initial life structure Build the dream Find a mentor	"Doing what one should" Living and building for the future Launched as an adult
Search for Stability 29-34	Establish children in school Progress in career or consider change Possible separation, divorce, remarriage Possible return to school	Reappraise relationships Reexamine life structure and present commitments Strive for success Search for stability, security, control Search for personal values Set long-range goals Accept growing children	"What is this life all about now that I am doing what I am supposed to?" Concern for order and stability and with "making it" Desire to set long-range goals and meet them

Table 1

continued

Phase and Age	Marker Events	Psychic Tasks	Characteristic Stance
Becoming One's Own Person 37-42	Crucial promotion Break with mentor Responsibility for three-generation family; i.e., growing children and aging parents For women: empty nest; enter career and education	Face reality Confront mortality; sense of aging Prune dependent ties to boss, spouse, mentor Reassess marriage Reassess personal priorities and values	Suspended animation More nurturing stance for men; more assertive stance for women "Have I done the right thing? Is there time to change?"
Settling Down 45-55	Cap career Become mentor Launch children; become grandparents New interests and hobbies Physical limitations; menopause Active participation in community events	Increase feelings of self-awareness and competence Reestablish family relationships Enjoy one's choices and life style Reexamine the fit between life structure and self	"It is perhaps late, but there are things I would like to do in the last half of my life" Best time of life
The Mellowing 57-64	Possible loss of mate Health problems Preparation for retirement	Accomplish goals in the time left to live Accept and adjust to aging process	Mellowing of feelings and relationships Spouse increasingly important Greater comfort with self

Table 1
continued

Phase and Age	Marker Events	Psychic Tasks	Characteristic Stance
Life Review 65+	Retirement Physical decline Change in finances New living arrangements Death of friends/spouse Major shift in daily routine	Search for integrity versus despair Acceptance of self Disengagement Rehearsal for death of spouse	Review of accomplishments Eagerness to share every- day human joys and sorrows Family is important Death is a new presence

Source: Cross, 1981, pp. 174-175. Reprinted by permission of the publisher.

Table 2

Milestones of ego development

Stage	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Presocial Symbiotic Impulsive	Impulsive, fear of retaliation	Autistic Symbiotic Receiving, dependent, exploitative	Self vs. nonself Bodily feelings, especially sexual and aggressive	Stereotyping, conceptual con- fusion
Self-protective	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitative	Self-protection, trouble, wishes, things, advantage, control	
Conformist	Conformity to external rules, shame, guilt for breaking rules	Belonging, super- ficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual sim- plicity, stereotypes, clichés
Conscientious- conformist	Differentiation of norms, goals	Aware of self in rela- tion to group, helping	Adjustment, prob- lems, reasons, opportunities (vague)	Multiplicity
Conscientious	Self-evaluated standards, self- criticism, guilt for consequences, long- term goals and ideals	Intensive, responsible, mutual, concern for communication	Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression	Conceptual com- plexity, idea of patterning

Table 2

continued

Stage	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Individualistic	Add: Respect for individuality	Add: Dependence as an emotional problem	Add: Development, social problems, differentiation of inner life from outer	Add: Distinction of process and outcome
Autonomous	Add: Coping with con- flicting inner needs, toleration	Add: Respect for autonomy, inter- dependence	Vividly conveyed feelings, integra- tion of physio- logical and psycho- logical, psycho- logical causation of behavior, role conception, self- fulfillment, self- in social context	Increased concep- tual complexity, complex pat- terns, tolera- tion for ambiguity, broad scope, objectivity
Integrated	Add: Reconciling inner conflicts, renuncia- tion of unattainable	Add: Cherishing of individuality	Add: Identity	

Note: "Add" means in addition to the description applying to the previous level.

Source: Loevinger, 1976, pp. 24-25. Reprinted by permission of the publisher.

Constitutive definition. Life transitions are gradual or dramatic periods of change which require adjustments to new positions in life.

Operational definition. For this study, the individual's position in life is described using the life-cycle phases described by Cross. A faculty member was considered in transition if he or she had experienced within the past 18 months one of the "marker events" listed in Cross's descriptions of life-cycle phases.

Opportunities and Barriers

Cross (1981) postulated that motivation to participate in learning activities depended largely on points A through D of the COR Model. Point E, opportunities and barriers, became important after an adult was motivated to participate. Adults with strong motivation, she claimed, were likely to seek out educational opportunities and overcome modest barriers. Conversely, modest barriers were likely to preclude the participation of weakly motivated adults.

Cross claimed, however, that establishing new opportunities for adult learners was "just as important to adult participation as removing barriers, especially over the past ten years" (1981, p. 147). She mentioned new programs which were established to meet special needs and interests of mature learners (e.g., the open university and elderhostel); she also noted other new opportunities which were made available by more convenient schedules and locations, more efficient delivery systems, and more appropriate content and teaching methods (e.g., telecourses and weekend colleges). Cross pointed out that many of the most successful new opportunities were not a direct response to

consumer demand. "Positive forces will be generated at point E in the COR Model to the extent that imaginative educators can formulate new programs, perhaps undreamed of by potential learners, that strike people as a better way to do things" (1981, p. 149).

Relatively little was written on opportunities (compared to their discussions of barriers to participation) by Cross or the other four researchers. Boshier focused on how to increase participation in educational opportunities by working with people in organizations to which they already have ties (e.g., industry, labor unions). Rubenson emphasized that opportunities are not enough; the intended participant must also expect that participation will have positive consequences. Boshier's and Tough's research included individuals who were already involved in educational activities and did not address other opportunities.

Cross summarized research data on obstacles to participation in adult learning activities. The barriers which individuals said prevented them from participating were categorized under three headings: situational, institutional, and dispositional barriers. Situational barriers were those which arose "from one's situation in life at a given time" (1981, p. 98). Lack of time, lack of money, lack of child care, and lack of transportation were considered situational barriers. Institutional barriers included "all those practices and procedures that exclude or discourage working adults from participating in educational activities--inconvenient schedules or locations, full-time fees for part-time study, inappropriate courses of study . . ." (1981, p. 98). Classified under dispositional barriers were negative attitudes and self-perceptions about oneself as a learner.

Cross suggested that "the barriers people identify on surveys should be viewed with healthy skepticism" (1981, p. 146). However, she thought it helpful to summarize the major barriers identified (in descending order of mention): (a) lack of time, (b) costs, (c) scheduling problems, (d) assorted institutional requirements/red tape, (e) lack of information about appropriate opportunities, (f) problems with child care or transportation, (g) lack of confidence, and (h) lack of interest.

Rubenson (1977) classified educational barriers under two headings: psychological impediments and external environmental obstacles. His psychological impediments equated roughly to Cross's dispositional barriers and his environmental obstacles included Cross's remaining categories--situational and institutional barriers.

Boshier described the barriers to participation in terms of social, psychological, and institutional incongruence. He contended that the variables usually described as the reasons for discontinuing an educational activity were actually mediating variables which "trigger dropout if intra-self or self/other incongruence has developed" (1973, p. 261).

Miller (1967) did not classify what he saw as barriers to participation but he did present "forces" within the social class structure which he believed discouraged participation in educational activities. These negative forces are listed in the force field diagrams of Appendix A. Tough did not discuss barriers.

Cross treated barriers to participation differently than the other researchers. Those dichotomous dispositional factors which could positively or negatively influence participation were treated as

separate constructs in her model. For example, lack of confidence (a psychological impediment under Rubenson's scheme) she included under construct A, self-evaluation: Self-confidence was viewed as a motivator and lack of confidence was believed to result in lack of motivation to participate. Thus, barriers in this study refer to the barriers which were categorized by Cross as situational or institutional. The two elements of point E in the COR Model are presented separately.

Construct: opportunities

Constitutive definition. An opportunity is a chance for an adult learner to participate in a learning activity.

Operational definition. For this study, an opportunity to participate in a learning activity is any structured activity which is available to a faculty member that enables the faculty member to acquire computer skills and/or information that he or she does not already possess. The structured activities available to the faculty through their academic departments, professional organizations, or other campus organizations were considered opportunities.

Construct: barriers

Constitutive definition. A barrier is a hindrance which discourages an adult from participating in a learning activity.

Operational definition. For this study, a barrier is anything which discourages a faculty member from participating in a structured learning activity on computer skills. Examples of barriers include

the scheduling of learning activities which conflicts with teaching schedules, transportation problems, prohibitive demands on time, and family responsibility.

Information

Lack of information about educational opportunities was treated as a barrier to participation by Rubenson (1977), Boshier (1973), and Miller (1967); however, Cross thought it was important enough to identify it as a separate construct. Information was included as point F in her model. She emphasized the importance of accurate information for providing the link between motivated learners and appropriate opportunities. "Without accurate information," she said, "point E in the model is weak because opportunities are not discovered and barriers loom large" (1981, p. 127).

Constitutive definition. Information is an awareness of the individual's opportunities for educational activities.

Operational definition. For this study, information is a faculty member's awareness of structured professional development activities on computer technology. The individual's knowledge of activities was compared to descriptions of opportunities which were disseminated to the faculty by the sponsoring organization or department at the University of Florida (i.e., Office of Instructional Resources, Center for Instructional and Research Computing Activities, Northeast Regional Data Center, Sponsored Research, Office of Academic Affairs, and professional organizations).

Participation

Cross (1981, Ch. 3), while laying the foundation for her COR Model, discussed the different criteria used in various research studies to define "participation" in adult education.

When the broadest definition—"sustained deliberate efforts to learn"—is used, investigators generally agree that virtually everyone can be classified as a participant. . . . When the definition is limited to "receipt of instruction" or "organized learning," participation rates vary from roughly 12 to 30 percent of the adult population. . . . Figures from numerous state studies conducted in the early 1970s suggest that a more realistic estimate would be one of three adults participating in some form of organized learning activity. (p. 52)

Cross (1981, p. 53) described the adults depicted by her COR Model as part-time learners in "organized instruction." These learning activities were usually non-credit, and they usually were offered to groups of learners in classlike formats. While completely self-directed learning projects were excluded, tutorials and professionally prepared courses of instruction that were independently pursued (i.e., television and correspondence courses) were included. These learning activities were offered by organizations such as continuing education and extension divisions of colleges and universities, industry, community agencies, and labor unions.

The definitions of participation by the four scholars whose works Cross utilized as she designed her model did not all coincide with her definition. Tough (1978), for example, focused on self-directed learning projects rather than enrollment in organized classes. Rubenson (1977) viewed adult education as one of many forms of social participation which are often aimed at some form of achievement. Boshier (1973) defined a participant as an adult who attended at least

two sessions of an organized class. He further defined a dropout as a person who, after attending the first two classes, was absent from the mid-point session and four successive sessions. Miller (1967), whose definition comes closest to that of Cross, examined the voluntary involvement of adults in learning activities; and he presented their "level" of participation as a product of positive and negative forces which are both psychological and situational.

Constitutive definition. Participation is the act of taking part in an organized learning activity.

Operational definition. For this study, participation is defined as enrolling in a professional development activity related to computer skills and/or information. Three levels of involvement were noted. Level 1 (the lowest level) denoted the faculty member who attended four seminars on computer technology but had not applied what he or she learned. Level 2 indicated that the faculty member attended more than four seminars on computer technology but had not applied what he or she learned, or that the faculty member attended only four seminars but also had applied what he or she learned. Level 3 indicated that the faculty member had participated in more than four seminars and also had applied what he or she learned. The level of participation was determined from attendance records kept by the organizations sponsoring the learning activities and by self-report.

Cross (1981) postulated that faculty members who voluntarily participate in structured learning activities and evaluate their participation positively are more likely to have a positive self-evaluation and attitude about education. Thus, the cycle begins again which results in participation.

Summary

In summary, Cross based her Chain-of-Response Model primarily on the works of four researchers in adult education: Miller, Rubenson, Boshier, and Tough. She proposed her COR Model to explain participation in adult learning activities. While her model included all adults involved in adult learning activities, this study focused on those adults who were faculty at a postsecondary educational institution. The seven constructs included in Cross's model were self-evaluation, attitudes about education, importance of goals and expectation that participation will meet goals, life transitions, opportunities and barriers, information, and participation. The constitutive and operational definitions of her constructs served as a basis for assessing the utility of the model for describing college and university faculty members who participate in structured professional development activities on computer technology.

CHAPTER III THE DEVELOPMENT OF THE INTERVIEW SCHEDULE

An interview schedule was designed to assess whether the respondent, a University of Florida faculty member, could be described by the constructs in the adapted COR Model. In order to move from construct definitions (given in Chapter II) to interview questions, an intermediate step was necessary. Thus, statements which could be used to describe faculty members who fit Cross's constructs were written for each construct, and decision rules were established by which the degree of congruence could be measured. These descriptive statements were submitted to Cross along with the construct definitions for her approval and/or revision.

Descriptive Statements of COR Model Constructs

Self-Evaluation

Descriptive statements. Faculty members who perceive themselves positively and have confidence in their own abilities may be described by the statements that follow. The corollaries which arise in statements with opposite meanings are descriptors of faculty with poor self-evaluations.

1. Consider themselves well prepared for their present position.
2. Rank themselves as instructors in the top quartile of their department.

3. Rank themselves as researchers in the top quartile of their department.

4. Describe themselves as good at learning new things.

5. Describe themselves as enjoying new learning experiences.

6. Have or would participate in professional development activities because of a concern for self-development, apart from any status these confer.

Decision rule. Individuals who can be described by at least five of the descriptive statements will be placed in the highest of three levels of self-evaluation. Individuals who can be described by two or less of the descriptive statements will be placed in the lowest level.

Attitudes about Education

Descriptive statements. Faculty members who have positive attitudes toward professional development activities may be described by the statements that follow. The corollaries which arise in statements with opposite meanings are descriptors of faculty with negative attitudes toward professional development activities.

1. Believe professional development activities are needed or helpful to them personally.

2. Believe professional development activities are important to their institution.

3. Perceive that their reference groups value professional development activities.

4. Have enjoyed past adult education activities.

5. Have enjoyed past professional development activities.

6. Look forward to this kind of association with faculty colleagues.

Decision rule. Individuals who can be described by at least four of the descriptive statements will be placed in the highest of three levels of attitude. Individuals who can be described by two or less of the statements will be placed in the lowest level.

Goals and Expectations

Descriptive statements. Faculty members who are motivated to participate in professional development activities have the following characteristics with respect to goals and expectations:

1. Have a goal that is related to the professional development activities (at least indirectly).
2. Believe participation in the professional development activities will lead to the achievement of the goal.
3. Believe they are sufficiently prepared to successfully complete the professional development activity.
4. Believe achievement of the goal will satisfy a need, associated with academic class.

Decision rule. Individuals will be categorized into two levels--positive and negative--for each of the two constructs under goals and expectations. Both statements "1" and "4" must describe the individual if the person is to be classified as fulfilling the requirements for a positive goal orientation. Both statements "2" and "3" must describe the individual if the person is to be classified as having positive expectations. In order to receive a positive

rating for the combined construct (goals and expectations), the individual must receive positive ratings for each of the categories.

Life Transitions

Descriptive statement. Faculty members who participate in professional development activities may be described by the statement that follows concerning life-cycle phases. Describe themselves as experiencing a dramatic change.

Decision rule. Three levels of life transitions will be designated. Individuals who have experienced at least six events in their lives which would fit into Cross's list of events which bring about life transitions (see Table 1) will be placed in the highest level. Individuals who have not experienced any of the life-changing events will constitute the lowest level.

Opportunities and Barriers

Descriptive statements. Faculty members who participate in professional development activities may be described by the statements that follow concerning opportunities and barriers.

1. Identify themselves as eligible to participate in structured activities on computer technology sponsored by their academic departments, professional organization, or other campus organizations.

2. Can identify several structured activities on computer technology which they believe would benefit them professionally.

3. Believe they can overcome any situations which they identify as barriers.

Decision rule. All three statements must describe the individual if the person is to be classified with a positive orientation toward opportunities and barriers.

Information

Descriptive statements. Faculty members who have an awareness of their opportunities for professional development in computer technology may be described by the statements that follow:

1. Can identify several structured activities on computer technology which are available.

2. Can describe existing opportunities for professional development activities on computer technology.

Decision rule. Individuals can be categorized into three levels of awareness of professional development opportunities on computer technology. The highest level indicates the person is aware of organizations who are sponsoring such activities and can describe more than one activity. The lowest category indicates the person cannot describe any opportunities for professional development in computer technology nor can he or she identify organizations who sponsor such activities. The person who can name at least one sponsoring organization and/or can describe at least one offering will be categorized on the second level.

Participation

Descriptive statements. Faculty members who are participators may be described by these statements:

1. Are/have attended professional development activities voluntarily.
2. Are/have attended professional development activities on computer technology voluntarily.
3. Evaluate their participation in professional development activities positively.
4. Evaluate their participation in professional development activities on computer technology positively.

Decision rule. Individuals will be placed in one of five levels to indicate the number of descriptive statements that describe the individual. The highest level indicates that all four statements are true for the individual while the lowest level indicates none of the statements are true.

Interview Schedule Construction

The descriptive statements for the constructs of the COR Model served as a guideline for the development of interview questions and of statements to be used on the Likert-style instrument which was administered at the end of the interview. The Likert-style instrument (entitled Faculty Questionnaire) was used as a second method of measuring the constructs of the model. Care was taken during the development of both the interview questions and Likert-style statements on the Faculty Questionnaire to include at least one

question or statement which addressed each facet of the constructs. (See Appendix E for a list of descriptive statements cross-referenced to the COR Model Interview Schedule and the Faculty Questionnaire.)

During instrument development, the writer adhered to the following recommendations of Parten (1950) on the wording of questions:

1. Use simple words which are familiar to all potential [respondents].
2. Make the questions as concise as possible.
3. Formulate the questions to yield exactly the information desired.
4. Avoid "double-barreled" or multiple-meaning questions.
5. Avoid ambiguous questions.
6. Avoid leading questions.
7. Avoid "danger words," catchwords, stereotypes, or words with emotional connotations.
8. [Where appropriate] include indirect questions.
9. Be cautious in the use of phrases which may reflect upon the prestige of the [respondent].
10. Allow for all possible responses.
11. When a long check-list is used, use card questions or see that the items are rotated on different runs of the schedules.
12. Keep to a minimum the amount of writing required on the schedule.
13. Plan to include a few questions that will serve as checks on the accuracy and consistency of the questions as a whole.
14. Avoid questions that call out responses toward socially accepted norms or values.
15. Avoid apparently unreasonable questions by using a brief explanation justifying the question.
16. Plan to compare the responses to other questions which put the same issue in different contexts. (pp. 200-213)

Before conducting a pretest of the interview schedule, the schedule was submitted to an expert in social research with experience in interview schedule construction. This person was asked to critique the schedule, paying special attention to the following areas: (a) the wording of the questions (especially number three from Parten's recommendations--formulation of the questions to yield exactly the information desired), (b) the sequencing of the questions, (c) the

physical form of the schedule, (d) the coding of responses to the questions, and (e) the interview guidelines for persons who would be administering the schedule. The recommendations of the expert in social research were incorporated before the pretest was run.

Interview Guideline Development

To insure that the data obtained on the adapted version of the COR Model would be worth analyzing, the processes by which the information was obtained was controlled. Therefore, all significant elements of the interview situation--the interviewer, the surroundings of the interview, the respondent, and the process of questioning and recording--were described in the interview guidelines. A preliminary listing of interview guidelines was submitted to an expert in social research along with the interview schedule for the expert's suggestions. The guidelines were revised as necessary based on the expert's suggestions and based on problems experienced during the pretest of the schedule. (See Appendix F for Interview Guidelines.)

Pretest of the Interview Schedule

Bailey (1978) in his book Methods of Social Research (pp. 129-132) described what he considered to be one of the most important stages in interview schedule development--the pretest. This study incorporated his recommendations. A rough draft of the schedule was used with a few respondents so that flaws could be identified and corrected. The sample used for the pretest was three faculty members with backgrounds which were similar to the target group of this study.

Members of this initial sample were asked for their critical analysis of all aspects on the questionnaire (such as question wording, question order, redundant questions, inappropriate or confusing response categories, items that were poorly scaled, and any other aspects of the questionnaire that they found inadequate) in addition to answering the questions as instructed.

Priority in analyzing pretest information was given to the respondents' marginal comments and opinions. All of the respondents' recommendations did not result in schedule changes; however, all comments were examined for needed revisions. Following the analysis of critical comments, nonresponses, patterns of response, and questions that were answered with qualifications, came the analysis of questions that did yield useful data. Appropriate changes in the interview schedule were made. (See Appendices G and H for a copy of the COR Model Interview Schedule and the Faculty Questionnaire, respectively.)

CHAPTER IV DATA COLLECTION AND ANALYSIS

The problem addressed by this study was to determine whether it was possible to describe college and university faculty members who participated in organized professional development activities using Cross's Chain-of-Response Model. The focus of the study was narrowed to participation in organized professional development activities on computer technology. Computer technology was selected because the need for development of computer knowledge and skills transcended all disciplines and because records of faculty participation in educational activities related to computers were available through the Faculty Support Center for Computing at the University of Florida.

Population Studied

The population included in the study were assistant, associate, and full professors who were home based at the University of Florida (UF). The faculty who met these criteria were divided into participants and non-participants in structured professional development activities in computer technology. Records kept on attendance at computer seminars sponsored by the Faculty Support Center for Computing at the University of Florida were used for the initial separation of participants from non-participants. In order to identify faculty with strong participation, only faculty who had visited the Faculty Support Center at least four times (the mean

number of visits of all faculty who had visited the Center as of January 1985) were assigned to Group I. A sample of 15 faculty members was randomly taken from this group to be interviewed. The faculty who were in the same departments as the sample for Group I and who had not visited the Faculty Support Center were initially considered non-participants and assigned to Group II. Again, a random sample of 15 faculty members was selected for the study. In cases when the faculty member randomly selected from either group was out-of-town on sabbatical, declined to participate in the study, or was unavailable for other reasons, a replacement was randomly selected from the appropriate group.

Data Collection

Faculty members selected for the study were sent letters apprising them of the study before they were contacted to schedule an interview. (See Appendix I for a copy of the letter.) Approximately one week later the faculty member was called for an appointment time. During the telephone conversation, additional information concerning the purpose of the study was given, the amount of time and setting needed for the interview were discussed, and the interview was scheduled. (See Appendix J for the Initial Telephone Contact Guide.)

Faculty responses to the initial contacts (letter and telephone call) were positive with only one person declining to participate in the study. However, some difficulty was experienced in contacting faculty members by phone and in scheduling interviews around their busy schedules. As a result, the interview process extended over a three-month period.

All interviews were arranged and conducted by the same person. In each case, care was taken to control the setting of the interview to prevent disruptions. The interview schedule was administered first; then, the written questionnaire was completed while the interviewer waited. In one case, however, the respondent was leaving the country and only had time for the oral portion of the interview. He requested that he be allowed to return the written Faculty Questionnaire by mail, which he did within one week of the interview.

Steps of Data Analysis

The data gathered for this study were both qualitative and quantitative, but primarily qualitative. The procedures for analysis of qualitative data which were outlined by Miles and Huberman (1984a, 1984b) were utilized. The analysis of data consisted of three concurrent activities: data reduction, data display, and conclusion-drawing/verification.

Data Reduction

Data reduction is a form of analysis that sharpens, sorts, focuses, discards, and organizes data so that conclusions can be drawn and verified. The design of the interview schedule, the selection of data to be recorded as field notes, and the simplification and coding of the raw data from field notes are examples of anticipatory data reduction. By actively preplanning the kind of data to be collected, internal validity and manageability of the data were emphasized.

In many instances, but not all, the data were converted into numbers or ranks (quantification). Where qualitative data were quantified, the numbers and the words used to derive the numbers were kept together during analysis. (See Appendix L for the Code Book.)

Data Display

Particularly useful in organizing the qualitative data so that conclusions could be drawn were the development of matrices, graphs, networks, and charts. The design of the data display, an important step in analyzing qualitative data, helped prevent the tendency to overly simplify or jump to hasty, partial conclusions, a danger when using only narrative text.

Conclusion-Drawing/Verification

Conclusion-drawing began with data collection as the researcher noted regularities, patterns, explanations, possible configurations, causal flows, and propositions. Initially, the conclusions were vague and tentative. They became increasingly explicit and grounded as data reduction and display revealed a logical chain of evidence and conceptual/theoretical coherence.

Several techniques suggested by Miles and Huberman (1984a, 1984b) were used for drawing meaning from data displays. Counting was used to help the researcher get an overview of the data more easily and rapidly and to facilitate generalization. Patterns or themes within

the data were noted, data were clustered, and plausible conclusions were carefully examined for discrepancies. In a few instances, the researcher found it necessary to differentiate between parts of constructs in order to draw a clearer understanding of the relationship between the construct and participation in professional development. Particulars of the research were subsumed into the study's conceptual framework and relations between variables were noted. Because the purpose of this study was to collect information which would confirm or call to question the credibility of a conceptual framework, the researcher critically examined the data for a logical chain of evidence which would support Cross's theory.

Conclusion-verification techniques included making contrasts/comparison, checking the meaning of outliers, looking for negative evidence, and recording discussion and review to develop intersubjective consensus. The researcher conducted all interviews; a second person with no vested interest in the outcomes of the research coded the data gathered. Also, methodological triangulation was used for verification by comparing the data given in response to the questions asked orally from the interview schedule to the data from the written responses of the Likert-style instrument which measured the same constructs.

Statistics which were used to differentiate between the two groups were median scores, percentile rank, and Spearman rank correlations. The chi-square test was used to determine statistical significance.

Analysis and Discussion of Data

Characteristics of the Respondents

The respondents of Group I were randomly selected from University of Florida faculty members who had participated in four or more structured educational activities at the Faculty Support Center for Computing. Group II was randomly selected from faculty who were matched to Group I for college and department but had not participated in structured educational activities at the Faculty Support Center. After sample selection, the researcher determined the level of participation through interview. None of the members of Group II had attended any Faculty Support Center activities; however, four faculty members from Group II had attended one session on computer technology which was sponsored by another organization. Because participation for this study by definition required attendance at a minimum of four sessions on computer technology, the four remained in Group II non-participants. The demographic characteristics of both groups are found in Table 3.

Evaluation of Data by Construct

Data were gathered about the respondents from several sources, the primary source being the respondents themselves during the interview. Other sources of data were catalogues of the various colleges (consulted for college, departments, and title of faculty members) and records of the Faculty Support Center (consulted for attendance). The data gathered were coded and computer sorted according to construct for each individual and group.

Table 3

Demographic characteristics of respondents by group

Characteristics	Group I (n = 15)	Group II (n = 15)
Number of colleges represented	9	9
Number of departments represented	14	14
Sex		
Male faculty members	11	13
Female faculty members	4	2
Academic rank		
Assistant professor	3	4
Associate professor	5	4
Full professor	6	7
Distinguished professor	0	0
Graduate research professor	1	0
Administrative title		
No	14	13
Yes	1	2
Primary assignment		
Teaching	6	8
Research	6	2
Service	1	2
Administration	1	3
Teaching and administration	1	0
Years at the University of Florida		
Range	3-23 years	2-34 years
Mean	11.27 years	12.53 years
Appointment		
9 months/year	5	7
12 months/year	10	8
Prior participation in learning activities on computer technology		
Non-participants	0	15
Level 1 (4 sessions)	1	0
Level 2 (4 sessions + application) or (> 4 sessions)	4	0
Level 3 (> 4 sessions + application)	10	0

The Statistical Analysis System (SAS) was used to run statistical tests on the data. Also, SAS was used to generate tables and graphs so that the data could be more easily understood.

Construct: self-evaluation

Treatment of data from COR Model Interview Schedule. Self-evaluation is the general or global value which a person ascribes to himself. Operationally, this translates into how the respondent describes himself/herself as a professional educator. During the interviews, the faculty members were asked questions about their job preparation, teaching and research performance, and aptitude for learning new things. (See Appendix G for the COR Model Interview Schedule.) Each faculty member's responses to the interview questions were used to determine whether the descriptive statements, which were approved by Cross as characteristic of faculty with positive self-evaluation, could be appropriately used to describe the faculty member. A decision was then made concerning the individual's overall self-evaluation relative to the self-evaluation of others included in the study. Table 4 lists the decision rule used to categorize faculty into positive, less positive, and least positive levels of self-evaluation and indicates the appropriateness of the descriptive statements by individual and group.

Self-evaluation levels in both Group I (participants) and Group II (non-participants) ranged from "positive" to "least positive," with the median score for Group I being three, "positive," and the median score for Group II being two, "less positive."

Table 4

Breakdown of construct stance by descriptive statements
Construct: Self-evaluation (data source = interview)

Respondents		Descriptive Statements						Individual Summary*
		1	2	3	4	5	6	
Group I (participants)								
1		yes	yes	yes	no	yes	no	less positive
2		yes	yes	yes	no	yes	yes	positive
3		yes	yes	yes	yes	yes	yes	positive
4		no	yes	yes	yes	yes	yes	positive
5		yes	yes	no	yes	yes	no	less positive
6		yes	yes	yes	yes	yes	yes	positive
7		yes	yes	yes	yes	yes	yes	positive
8		yes	yes	no	yes	yes	yes	positive
9		yes	yes	yes	no	yes	no	less positive
10		yes	yes	yes	yes	yes	no	positive
11		yes	yes	no	yes	yes	yes	positive
12		yes	yes	yes	yes	yes	no	positive
13		no	yes	no	yes	no	no	least positive
14		yes	yes	no	yes	yes	yes	positive
15		yes	yes	no	no	yes	yes	less positive
Group	yes	13	15	9	11	14	9	10 positive
Summaries	no	2	0	6	4	1	6	4 less positive 1 least positive
Group II (non-participants)								
16		yes	yes	no	yes	yes	yes	positive
17		no	yes	yes	no	yes	no	less positive
18		yes	yes	no	yes	no	yes	less positive
19		yes	yes	no	no	yes	yes	less positive
20		yes	yes	no	no	yes	no	less positive
21		yes	yes	no	no	yes	yes	less positive
22		yes	no	no	yes	yes	no	less positive
23		yes	yes	yes	yes	no	yes	positive
24		yes	no	yes	yes	yes	no	less positive
25		yes	yes	yes	yes	no	no	less positive
26		yes	yes	no	yes	yes	yes	positive
27		no	no	no	yes	yes	no	least positive
28		yes	no	yes	yes	yes	yes	positive
29		yes	yes	no	yes	no	yes	less positive
30		yes	yes	yes	yes	yes	yes	positive
Group	yes	13	11	6	11	11	9	5 positive
Summaries	no	2	4	9	4	4	6	9 less positive 1 least positive

*Decision rule: Individuals who could be described by at least five of the descriptive statements were placed in the highest of three levels of self-evaluation. Individuals who could be described by two or less of the descriptive statements were placed in the lowest level.

Comparison of data from interview schedule to data from Faculty Questionnaire. The Faculty Questionnaire, administered at the end of the interview, consisted of several statements which were closely tied to the descriptive statements of the seven constructs in the model (see Appendix H). The same decision rule that was used to categorize faculty into the three levels of self-evaluation based on interview data was used to categorize faculty based on questionnaire data. Again, a full range of self-evaluation levels was found for each group; however, both groups evaluated themselves less positively on the written questionnaire than they did orally. The median level for both groups on the questionnaire data was two, "less positive." Figure 3 plots the level of self-evaluation by the frequency of individuals in each level by group and by source of data.

Extent to which findings support COR Model. Cross (1981), in her COR Model, asserts that adults who perceive themselves positively and have confidence in their own abilities are more likely to participate voluntarily in structured learning activities. Thus, one would expect that the faculty at the University of Florida who perceive themselves positively and have confidence in their own abilities would be more likely to participate voluntarily in structured learning activities on computer technology. One null hypothesis relative to self-evaluation which was tested by this study was as follows:

Hypothesis A-1. There is no difference between self-evaluation and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was

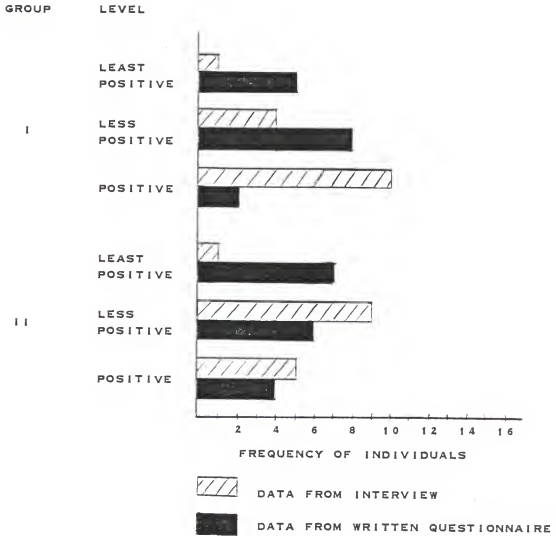


Figure 3. Level of self-evaluation by frequency.

no significant difference at the $p \leq .10$ level between Group I and Group II on the self-evaluation data gathered by use of the interview schedule or the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

A second null hypothesis relative to self-evaluation which was tested by this study was as follows:

Hypothesis A-2. There is no difference among self-evaluation and the levels of participation in professional development activities on computer technology by faculty at the University of Florida

To test the hypothesis, the level of self-evaluation was compared to the level of participation. Only Group I respondents were used because Group II respondents were non-participants by definition. The level of participation was defined as follows: Level 1 (the lowest level) denoted the faculty member who attended four seminars on computer technology but had not applied what he or she had learned. Level 2 indicated that the faculty member attended more than four seminars on computer technology but had not applied what he or she learned, or that the faculty member attended only four seminars but also had applied what he or she learned. Level 3 indicated that the faculty member had participated in more than four seminars and also had applied what he or she learned. There was no significant difference at the $p \leq .10$ level among self-evaluation and levels of participation for the data gathered by use of the interview schedule; however, written questionnaire data showed a significant difference ($p = 0.0291$) and a negative Spearman correlation of -0.663 . Because of conflicting data, the researcher failed to reject the null hypothesis A-2.

The fact that the researcher found no significant difference between Group I and Group II on self-evaluation nor a significant relationship among self-evaluation and levels of participation neither adds support for or against the applicability of the COR Model. Several constructs are included in Cross's model which she said led to participation. The minimum criterion for acceptance of the model--a positive self-evaluation by participants--was met. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: attitudes about education

Treatment of data from COR Model Interview Schedule. A person's attitude about education is the interest of a certain intensity that he or she has in participating in educational activities. Operationally, this translates into the faculty member's expressed opinion about professional development activities on computer technology. The individual's perception of other faculty members' opinions of his or her participation is also an indicator of the intensity of the attitude. During the interviews, the faculty members were asked questions about the usefulness and pleasure derived from participation in professional development activities. (See Appendix G for the COR Model Interview Schedule.) Each faculty member's responses to the interview questions were used to determine whether the descriptive statements, which were approved by Cross as characteristic of faculty with positive attitudes about education, could be appropriately used to describe the faculty member. Table 5 lists the decision rule used to categorize faculty into "positive," "less positive," and "least positive" levels of attitudes about

Table 5

Breakdown of construct stance by descriptive statements

Construct: Attitudes about education (data source = interview)

Respondents		Descriptive Statements						Individual Summary*
		1	2	3	4	5	6	
Group I (participants)								
1		yes	yes	no	yes	yes	yes	positive
2		no	yes	no	yes	yes	yes	positive
3		no	no	no	yes	yes	no	least positive
4		yes	no	yes	yes	yes	no	positive
5		yes	no	yes	yes	no	yes	positive
6		yes	no	yes	yes	yes	yes	positive
7		yes	no	yes	yes	yes	yes	positive
8		yes	yes	yes	yes	yes	no	positive
9		yes	no	yes	yes	yes	no	positive
10		yes	no	yes	yes	yes	yes	positive
11		yes	yes	yes	yes	yes	yes	positive
12		no	yes	yes	yes	yes	yes	positive
13		yes	no	no	no	no	no	least positive
14		yes	no	yes	yes	yes	yes	positive
15		yes	no	yes	yes	yes	yes	positive
Group	yes	12	5	11	14	13	10	13 positive
Summaries	no	3	10	4	1	2	5	2 least positive
Group II (non-participants)								
16		yes	yes	yes	yes	yes	yes	positive
17		no	no	yes	yes	yes	yes	positive
18		yes	no	no	no	no	yes	least positive
19		yes	yes	yes	yes	yes	yes	positive
20		yes	yes	yes	yes	yes	yes	positive
21		yes	no	yes	yes	yes	yes	positive
22		yes	yes	yes	yes	no	yes	positive
23		yes	no	yes	no	no	yes	less positive
24		yes	yes	yes	yes	yes	yes	positive
25		yes	yes	yes	no	no	yes	positive
26		yes	yes	yes	yes	yes	yes	positive
27		no	no	yes	yes	yes	no	less positive
28		no	no	yes	yes	yes	yes	positive
29		no	no	no	no	no	no	least positive
30		yes	no	yes	yes	yes	yes	positive
Group	yes	11	7	13	11	10	13	11 positive
Summaries	no	4	8	2	4	5	2	2 less positive 2 least positive

*Decision rule: Individuals who could be described by at least four of the descriptive statements were placed in the highest of three levels of attitude. Individuals who could be described by two or less of the statements were placed in the lowest level.

education and indicates the appropriateness of the descriptive statements by individual and group. Attitude levels in both Group I (participants) and Group II (non-participants) ranged from "positive" to "least positive," with the median score for both groups being three, "positive."

Comparison of data from interview schedule to data from Faculty Questionnaire. The same decision rule that was used to categorize faculty into the three levels of attitude about education based on interview data was used to categorize faculty based on questionnaire data. Again, a full range of attitude levels was found for each group; however, both groups reported themselves as more positive on the written questionnaire than they did orally. The median level for both groups on the questionnaire data was three, "positive." Figure 4 plots the level of attitude about education by the frequency of individuals in each level by group and by source of data.

Extent to which findings support COR Model. Cross (1981), in her COR Model, asserts that adults who have positive attitudes about education are more likely to participate voluntarily in structured learning activities. Thus, one would expect that the faculty at the University of Florida who have positive attitudes about professional development activities would be more likely to participate voluntarily in structured learning activities on computer technology. The null hypothesis relative to attitudes about education which was tested by this study was as follows:

Hypothesis B-1. There is no difference between attitudes about education and participation in professional development activities on computer technology by faculty at the University of Florida.

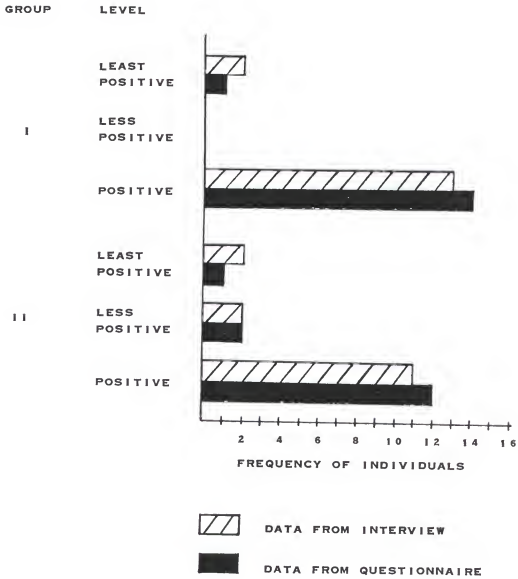


Figure 4. Level of attitudes about education by frequency.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was no significant difference at the $p = < .10$ level between Group I and Group II on the attitudes data gathered by use of the interview schedule or the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis.

A second null hypothesis relative to attitudes about education which was tested by this study follows:

Hypothesis B-2. There is no difference among attitudes about education and the level of participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, the faculty members' attitudes about education which were determined by interview and written questionnaire were compared to the levels of participation. There was a significant difference ($p = 0.0272$) between levels of participation on the attitudes about education data gathered by use of the interview schedule. (The Spearman correlation was 0.246.) No significant difference was found on the written questionnaire. The data gathered by the interview and questionnaire were inconsistent; therefore, the researcher failed to reject the null hypothesis.

The fact that the researcher found no significant difference between Group I and Group II on attitudes about education nor a relationship among attitudes about education and levels of participation neither adds support for or against the applicability of the COR Model. Several constructs are included in Cross's model which she said lead to participation. The minimum criterion for acceptance of the model—a positive attitude toward education by

participants--was met. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: goals and expectations

Treatment of data from COR Model Interview Schedule. Point C in Cross's model (importance of goals and expectation that participation will meet goals) actually included two different but interdependent constructs--goals and expectancy. Faculty member responses to questions concerning goals were compared to the descriptive statements about goals and each individual was rated positive or negative. The individual was then rated positive or negative on expectancy, again by comparison to descriptive statements. In order to receive a positive rating for the combined construct, the individual had to receive positive ratings for each of the categories. Table 6 lists the decision rule used to categorize faculty as positive or negative for goals and expectations. The table also indicates the appropriateness of the descriptive statements by individual and group. The median position on the combined construct for Group I (participants) was positive and the median position for Group II (non-participants) was negative.

Comparison of data from interview schedule to data from Faculty Questionnaire. The same decision rule that was used to categorize faculty on goals and expectations based on interview data was used to categorize faculty based on questionnaire data. Again, the median position for Group I was "positive" and the median position for Group II was negative. Figure 5 plots goals and expectations by the frequency of individuals in each position by group and by source of data.

Table 6

Breakdown of construct stance by descriptive statements
Construct: Goals and expectations (data source = interview)

Respondents		Descriptive Statements						Combined Construct*
		Goals			Expectations			
		1	4	Overall	2	3	Overall	
Group I (participants)								
1		yes	yes	positive	yes	yes	positive	positive
2		no	no	negative	yes	yes	positive	negative
3		yes	yes	positive	no	yes	negative	negative
4		yes	no	negative	yes	yes	positive	negative
5		yes	yes	positive	yes	yes	positive	positive
6		yes	yes	positive	yes	yes	positive	positive
7		yes	yes	positive	yes	yes	positive	positive
8		yes	yes	positive	no	yes	negative	negative
9		yes	no	negative	yes	yes	positive	negative
10		yes	yes	positive	no	yes	negative	negative
11		yes	yes	positive	yes	yes	positive	positive
12		yes	yes	positive	yes	yes	positive	positive
13		yes	yes	positive	yes	yes	positive	positive
14		yes	yes	positive	yes	yes	positive	positive
15		yes	yes	positive	yes	yes	positive	positive
Group	yes	14	12	12	12	15	12	9
Summary	no	1	3	3	3	0	3	6
Group II (participants)								
16		yes	yes	positive	yes	yes	positive	positive
17		yes	yes	positive	no	yes	negative	negative
18		yes	yes	positive	no	yes	negative	negative
19		no	no	negative	no	yes	negative	negative
20		yes	yes	positive	no	yes	negative	negative
21		no	no	negative	no	yes	negative	negative
22		yes	no	negative	no	yes	negative	negative
23		no	no	negative	no	yes	negative	negative
24		yes	yes	positive	no	yes	negative	negative
25		no	no	negative	no	yes	negative	negative
26		yes	yes	positive	no	yes	negative	negative
27		no	no	negative	no	yes	negative	negative
28		yes	yes	positive	no	yes	negative	negative
29		yes	no	negative	no	yes	negative	negative
30		yes	no	negative	no	yes	negative	negative
Group	yes	10	7	7	1	15		1
Summary	no	5	8	8	14	0		14

*Decision rule: Both statements "1" and "4" described the individual if the person was classified as fulfilling the requirements for a positive goal orientation. Both statements "2" and "3" described the individual if the person was classified as having positive expectations. In order to receive a positive rating for the combined construct (goals and expectations), the individual had to receive positive ratings for each of the categories.

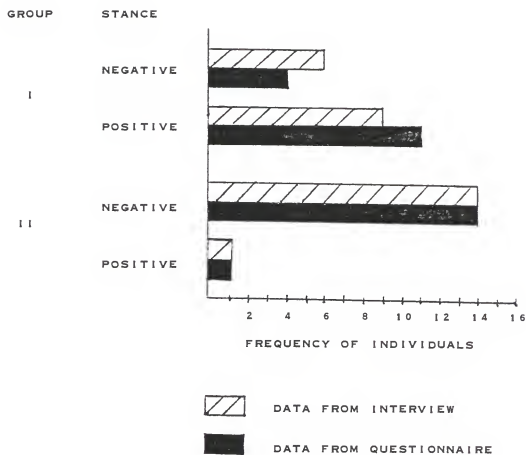


Figure 5. Level of goals and expectations by frequency.

Extent to which findings support COR Model. Cross (1981) asserts that motivation to participate in educational activities is strong only if the individual believes a goal important to him/her is likely to be achieved through participation in the activity. Thus, one would expect that the faculty at the University of Florida who have goals which are related to computer technology and who expect that participation in the learning activity on computers will help them achieve their goals would be more likely to participate voluntarily in structured learning activities on computer technology. One null hypothesis relative to goals and expectations which was tested by this study was as follows:

Hypothesis C-1. There is no difference between goals and expectations and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was a significant difference ($p = 0.0019$) between Group I and Group II on the goals and expectations data gathered by use of the interview schedule and there also was a significant difference ($p = 0.0002$) between groups on the data from the Faculty Questionnaire. Therefore, the researcher rejected the null hypothesis.

A second null hypothesis relative to goals and expectations which was tested by this study follows:

Hypothesis C-2. There is no difference among goals and expectations and the level of participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, the level of goals and expectations which was determined by interview and written questionnaire was compared to the

level of participation. There was no significant difference at the $p < 0.10$ level between levels of participation on the goals and expectations data gathered by use of the interview schedule or written questionnaire. Therefore, the researcher failed to reject the null hypothesis.

The rejection of the null hypothesis C-1 relating goals and expectations to participation/non-participation does lend support to Cross's COR Model. Faculty who participated in professional development activities related to computer technology did have a significantly more positive stance on the construct than faculty who did not participate. The Spearman correlation between goal-expectancy and group was -0.566 using interview data and the correlation was even higher using questionnaire data. That there was no significant difference among goals and expectations and levels of participation neither adds support for or against the COR Model. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: life transitions

Treatment of data from COR Model Interview Schedule. Life transitions are gradual or dramatic periods of change which require adjustments to new positions in life. Operationally, a faculty member was considered in transition if he or she had recently experienced a "marker event" from Cross's descriptions of life cycle phases. During the interviews, the faculty members were asked questions about life transitions they had experienced in the previous 18 months. Each faculty member's responses to the interview questions were used to determine whether the descriptive statement, which was approved by

Cross as characteristic of faculty who had experienced a life transition, could be appropriately used to describe the faculty member. Table 7 lists the decision rule used to categorize faculty into three levels of life transitions and indicates the level of each person included in the study.

Life transition levels in both Group I (participants) and Group II (non-participants) ranged from three to one with the median score for both groups being level two.

Comparison of data from interview schedule to data from Faculty Questionnaire. Data from the Likert-style questionnaire divided the faculty into two categories--those who had experienced at least one life transition in the past 18 months (level two) and those who had not. The median response by both groups was level one, "no life transitions." Figure 6 plots the level of life transitions by the frequency of individuals in each level by group and by source of data.

Extent to which findings support COR Model. Cross (1981), in her COR Model, asserts that adults who have experienced life transitions are more likely to participate voluntarily in structured learning activities. Thus, one would expect that the faculty at the University of Florida who have experienced life transitions would be more likely to participate voluntarily in structured learning activities on computer technology. One null hypothesis relative to life transitions which was tested by this study follows:

Hypothesis D-1. There is no difference between life transitions and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center

Table 7

Breakdown of construct stance by descriptive statements

Construct: Life transitions (data source = interview)

Group I (participants)	Level of Life- Changing Events	Group II (non-participants)	Level of Life- Changing Events*
1	2	16	2
2	2	17	1
3	2	18	2
4	3	19	1
5	3	20	2
6	3	21	2
7	2	22	1
8	3	23	3
9	1	24	2
10	3	25	2
11	2	26	2
12	3	27	1
13	2	28	2
14	1	29	2
15	1	30	3
Group	6 Level 3	Group	2 Level 3
Summary	6 Level 2	Summary	9 Level 2
	3 Level 1		4 Level 1

*Decision rule: Individuals who had experienced at least six events in their lives which would fit into Cross's list of events which bring about life transitions were placed in Level 3. Individuals who had not experienced any of the life-changing events constituted Level 1.

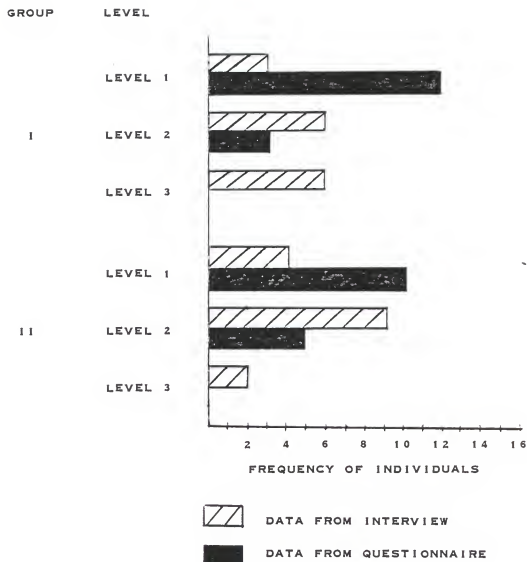


Figure 6. Level of life transitions by frequency.

(Group I) were compared to faculty who had not (Group II). There was no significant difference at the $p \leq 0.10$ level between Group I and Group II on the life transitions data gathered by use of the interview schedule or the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis.

A second null hypothesis relative to life transitions which was tested by this study follows:

Hypothesis D-2. There is no difference among life transitions and the levels of participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, the level of life transitions was compared to the level of participation. There was no significant difference at the $p \leq 0.10$ level between levels of participation on the life transitions data gathered by use of the interview schedule or the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis.

There was, as reported, no significant difference between groups or among levels of participation on life transitions--whether using data gathered by interview or written questionnaire; however, opposite findings were determined by the two methods. Data gathered by interview showed that 77% of all respondents had experienced at least one change in life-cycle phase during the 18 months prior to the study. When asked on the written questionnaire if he/she had "experienced a dramatic change in [his/her] life" during the past 18 months, 73% of all respondents said they had not.

The failure to reject both null hypotheses related to life transitions neither adds support for or against the applicability of the COR Model. Life transitions, Cross said, serve as additional

forces for learning and the individual influenced toward participation by a life transition would have had a positive motivation toward participation in learning activities even before the transition. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: opportunities and barriers

Treatment of data from COR Model Interview Schedule. Point E in Cross's model (opportunities and barriers) actually included two different but interdependent constructs--opportunities and barriers. Faculty member responses to questions concerning opportunities and barriers were compared to the descriptive statements about each area and each individual was rated "positive" or "negative" for each statement. In order to receive a positive rating for the combined construct, the individual had to receive positive ratings for each of the categories. Table 8 lists the decision rule used to categorize faculty as positive or negative for the combined construct. The table also indicates the appropriateness of the descriptive statements by individual and group. The median position on the combined construct for Group I (participants) was positive and the median position for Group II (non-participants) was negative.

Comparison of data from interview schedule to data from Faculty Questionnaire. The same decision rule that was used to categorize faculty on opportunities and barriers based on interview data was used to categorize faculty based on questionnaire data. Again, the median position for Group I was "positive" and the median position for Group II was "negative." Figure 7 plots opportunities and barriers by the frequency of individuals in each position by group and by source of data.

Table 8

Breakdown of construct stance by descriptive statements
Construct: Opportunities and barriers (data source = interview)

		Descriptive Statements			Individual Summary*
		1	2	3	
Group I (participants)					
1	yes	yes	yes	yes	positive
2	yes	yes	yes	yes	positive
3	yes	yes	yes	yes	positive
4	yes	yes	yes	yes	positive
5	yes	yes	yes	yes	positive
6	yes	yes	yes	yes	positive
7	yes	yes	yes	yes	positive
8	yes	yes	yes	yes	positive
9	yes	yes	yes	yes	positive
10	yes	yes	yes	yes	positive
11	yes	yes	yes	yes	positive
12	yes	yes	yes	yes	positive
13	yes	yes	yes	yes	positive
14	yes	yes	yes	yes	positive
15	yes	yes	yes	yes	positive
Group	yes	15	15	15	15 positive
Summaries	no	0	0	0	0 negative
Group II (non-participants)					
16	yes	yes	no	no	negative
17	yes	yes	no	no	negative
18	yes	no	no	no	negative
19	yes	yes	no	no	negative
20	yes	no	no	no	negative
21	yes	yes	no	no	negative
22	no	no	no	no	negative
23	yes	yes	no	no	negative
24	yes	no	no	no	negative
25	yes	no	no	no	negative
26	yes	yes	no	no	negative
27	no	no	no	no	negative
28	yes	yes	no	no	negative
29	yes	yes	no	no	negative
30	no	no	no	no	negative
Group	yes	12	8	0	0 positive
Summaries	no	3	7	15	15 negative

*Decision rule: All three statements had to describe the individual if the person was classified with a positive orientation toward opportunities and barriers.

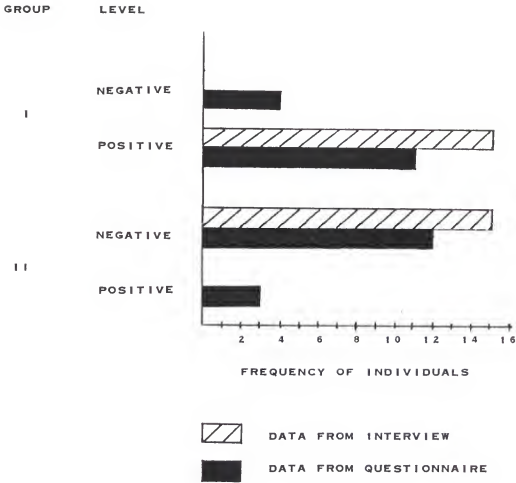


Figure 7. Level of opportunities and barriers by frequency.

Extent to which findings support COR Model. Cross (1981) claimed that adults with strong motivation to participate in learning activities were likely to seek out educational opportunities and overcome modest barriers. Conversely, modest barriers were likely to preclude the participation of weakly motivated adults. Thus, one would expect that the faculty at the University of Florida who have participated in learning activities on computer technology (Group I) to be aware of opportunities and minimize barriers, while the non-participants (Group II) would be expected to be unaware of opportunities and emphasize barriers. One null hypothesis relative to opportunities and barriers which was tested by this study follows:

Hypothesis E-1. There is no difference between opportunities and barriers and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was a significant difference ($p = 0.0001$) between Group I and Group II on the opportunities and barriers data gathered by use of the interview schedule and there also was a significant difference ($p = 0.0034$) between groups on the data from the Faculty Questionnaire. Therefore, the researcher rejected the null hypothesis.

A second null hypothesis relative to opportunities and barriers which was tested by this study follows:

Hypothesis E-2. There is no difference among opportunities and barriers and the levels of participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, the level of opportunities and barriers which was determined by interview and written questionnaire was compared to

the level of participation. There was no difference between levels of participation on the opportunities and barriers data gathered by use of the interview schedule and there was no significant difference at the $p \leq 0.10$ level between levels on the data from the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis.

The rejection of the null hypothesis E-1 relating to opportunities and barriers does lend support to Cross's COR Model. Faculty who participated in professional development activities related to computer technology did have a significantly more positive stance on the construct than faculty who did not participate. The Spearman correlation between opportunities and barriers and groups was -1.00 using interview data and -0.535 using written questionnaire data. The lack of a positive relationship between opportunities and barriers and levels of participation does not add support for or against the COR Model. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: information

Treatment of data from COR Model Interview Schedule. Information is an awareness of the individual's opportunities for educational activities. Operationally, this translates into the faculty member's awareness of structured professional development activities on computer technology. During the interviews, the faculty members were asked questions about opportunities which were available through various agencies on the University of Florida campus. Their responses were compared to information which has been disseminated to the faculty by the sponsoring organization or department. Each faculty

member's responses to the interview questions were used to determine whether the descriptive statements, which were approved by Cross as characteristic of faculty with accurate information, could be appropriately used to describe the faculty member. A decision was then made concerning the individual's overall information. Table 9 lists the decision rule used to categorize faculty into three levels of awareness. Group I (participants) all were categorized in the "highest awareness" level. Only the bottom two levels were found in Group II (non-participants). The median score for Group II was level two, "less aware."

Comparison of data from interview schedule to data from Faculty Questionnaire. The data gathered on the Faculty Questionnaire allowed for only two levels of information--"aware" and "unaware." The distribution of scores for Groups I and II on the written questionnaire were the same with "aware" as the median score for each. Figure 8 plots the level of information by the frequency of individuals in each level by group and by source of data.

Extent to which findings support COR Model. Cross (1981) emphasized the importance of accurate information for providing the link between motivated learners and appropriate opportunities. Individual who were motivated to participate in learning activities would notice and remember information about opportunities that were available to them. Thus, faculty at the University of Florida who can accurately describe learning activities on computer technology which are available to them would be more likely to participate voluntarily in structured learning activities on computer technology. One null hypothesis relative to information which was tested by this study follows:

Table 9

Breakdown of construct stance by descriptive statements
Construct: Information (data source = interview)

Descriptive Statements				Individual
				Summary*
	1	2		
Group I (participants)				
1	yes	yes		highest awareness
2	yes	yes		highest awareness
3	yes	yes		highest awareness
4	yes	yes		highest awareness
5	yes	yes		highest awareness
6	yes	yes		highest awareness
7	yes	yes		highest awareness
8	yes	yes		highest awareness
9	yes	yes		highest awareness
10	yes	yes		highest awareness
11	yes	yes		highest awareness
12	yes	yes		highest awareness
13	yes	yes		highest awareness
14	yes	yes		highest awareness
15	yes	yes		highest awareness
Group Summary	yes	15	15	15 highest awareness
Group II (non-participants)				
16	yes	no		less awareness
17	yes	no		less awareness
18	yes	no		less awareness
19	yes	no		less awareness
20	yes	no		less awareness
21	yes	no		less awareness
22	no	no		unaware
23	yes	no		less awareness
24	yes	no		less awareness
25	yes	no		less awareness
26	yes	no		less awareness
27	no	no		unaware
28	yes	no		less awareness
29	yes	no		less awareness
30	no	no		unaware
Group Summaries	yes	12	0	12 less awareness
	no	3	15	3 unaware

*Decision rule: The highest level indicates the individual was aware of sponsoring organizations of professional development opportunities on computer technology and could describe more than one activity. The lowest category indicates the individual could not describe any opportunities nor any sponsoring organizations.

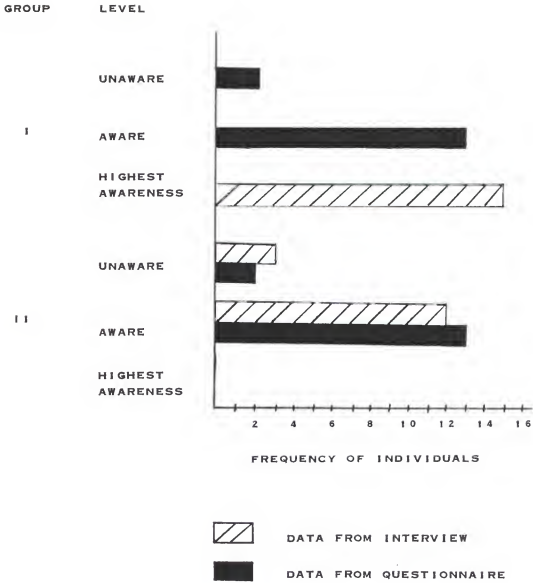


Figure 8. Level of information by frequency.

Hypothesis F-1. There is no difference between information and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was no significant difference at the $p \leq 0.10$ level between Group I and Group II on the information data gathered by use of the Faculty Questionnaire; however, there was a significant difference ($p = 0.0001$) between groups on the data gathered by use of the interview schedule. (The questionnaire asked respondents if they were aware of learning activities on computer technology and the interview required respondents to name and describe the activities.) The researcher failed to reject the null hypothesis because of conflicting data. A second null hypothesis relative to information which was tested by this study follows:

Hypothesis F-2. There is no difference among information and the levels of participation in professional development activities on computer technology for faculty at the University of Florida.

To test the hypothesis, the level of information which was determined by interview and written questionnaire was compared to the level of participation. There was no significant difference between levels of participation on data gathered by interview, even though there was a significant difference between levels of participation on the data gathered by questionnaire ($p = 0.0272$). Therefore, the researcher failed to reject the null hypothesis because of conflicting data.

The failure to reject the null hypotheses F-1 and F-2 lends support neither for or against the COR Model. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Construct: participation

Treatment of data from COR Model Interview Schedule.

Participation is the act of taking part in an organized learning activity. Operationally, this translates into the faculty member's voluntary participation in professional development activities on computer technology. The individual's evaluation of his or her participation experience is an indicator of the level of participation one could expect. During the interviews, the faculty members were asked questions about past participation in professional development activities in general and specifically about participation in activities on computer technology. Each faculty member's responses to the interview questions were used to determine whether the descriptive statements, which were approved by Cross as characteristic of faculty who are participants, could be appropriately used to describe the faculty member. A decision was then made concerning the individual's overall participation experience. Table 10 lists the decision rule used to categorize faculty into five levels of participation

Table 10

Breakdown of construct stance by descriptive statements

Construct: Participation (data source = interview)

		Descriptive Statements				Individual Summary*	
		1	2	3	4		
<hr/>							
Group I (participants)							
1	yes	yes	yes	yes		four	
2	yes	yes	yes	yes		four	
3	yes	yes	yes	no		four	
4	yes	yes	yes	yes		four	
5	yes	yes	yes	yes		four	
6	yes	yes	yes	yes		four	
7	yes	yes	yes	yes		four	
8	yes	yes	yes	yes		four	
9	yes	yes	yes	yes		four	
10	yes	yes	yes	yes		four	
11	yes	yes	yes	yes		four	
12	yes	yes	yes	yes		four	
13	yes	yes	no	yes		three	
14	yes	yes	yes	yes		four	
15	yes	yes	yes	yes		four	
<hr/>							
Group	yes	15	15	14	14	14	four
Summaries	no	0	0	1	1	1	three
<hr/>							
Group II (non-participants)							
16	yes	no	yes	no		two	
17	yes	no	yes	yes		three	
18	yes	no	no	no		one	
19	yes	no	yes	no		two	
20	yes	no	yes	no		two	
21	yes	no	yes	no		two	
22	yes	yes	yes	no		three	
23	yes	no	no	no		one	
24	yes	no	yes	no		two	
25	yes	no	no	no		one	
26	yes	yes	yes	no		three	
27	yes	no	yes	no		two	
28	yes	yes	yes	yes		four	
29	yes	no	no	no		one	
30	yes	yes	yes	no		three	
<hr/>							
Group	yes	15	4	11	2	1	four
Summaries	no	0	11	4	13	4	three
						6	two
						4	one
<hr/>							

*Decision rule: Individuals were placed into one of five levels to indicate the individual's attitude toward participation. Each level (4-0) corresponds to the number of descriptive statements that described the individual. The highest level indicated that all four statements were true for the individual while the lowest level indicates none of the statements was true.

experience ("four" through "zero") and indicates the appropriateness of the descriptive statements by individual and group.

The participation experience of Group I (participants) included only the two highest levels, with the median score being the highest level, "level four." Participation experience for Group II (non-participants) ranged from "level one" through "level four" with the median score being "level two."

Comparison of data from interview schedule to data from Faculty Questionnaire. The same decision rule that was used to categorize faculty into the five levels of participation experience based on interview data was used to categorize faculty based on questionnaire data. The range of levels for Group I was "level four" through "level one"; Group II had all five levels represented. The median scores for both groups remained the same as determined by interview--"levels four" and "two" for Groups I and II, respectively. Figure 9 plots the level of participation experience versus the frequency of individuals in each level by group and by source of data.

Extent to which findings support COR Model. Cross (1981), in her COR Model, asserts that adults who voluntarily participate in structured learning activities and evaluate their participation positively have a positive self-evaluation and attitude about education, thus, beginning the cycle again which results in participation. As a result, one would expect that the faculty at the University of Florida who have had positive experience in professional development activities related to computer activities would be more likely to participate voluntarily in additional structured learning

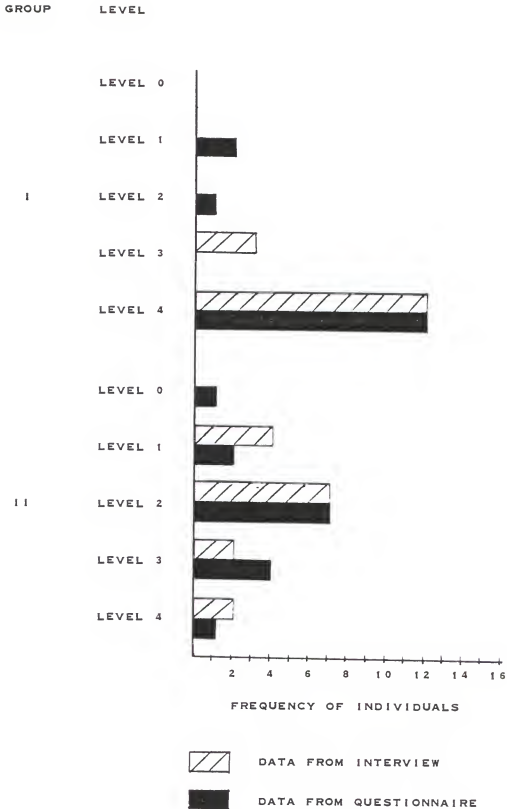


Figure 9. Level of participation experience by frequency.

activities on computer technology. One null hypothesis relative to participation which was tested by this study follows:

Hypothesis G-1. There is no difference between participation experience and participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, faculty members who participated in a minimum of four sessions on computer technology at the Faculty Support Center (Group I) were compared to faculty who had not (Group II). There was a significant difference ($p = 0.0004$) between Group I and Group II on the participation experience data gathered by use of the interview schedule. There was also a significant difference ($p = 0.0001$) between Group I and II on data gathered by use of the Faculty Questionnaire. Therefore, the researcher rejected the null hypothesis.

A second null hypothesis relative to participation which was tested by this study follows:

Hypothesis G-2. There is no difference among participation experience and the levels of participation in professional development activities on computer technology by faculty at the University of Florida.

To test the hypothesis, the level of participation experience was compared to the level of participation. There was a significant difference ($p = 0.0821$) between levels of participation on the participation experience data gathered by use of the interview schedule. There was not, however, a significant difference between levels of participation on data gathered by use of the Faculty Questionnaire. Therefore, the researcher failed to reject the null hypothesis because of conflicting data.

The rejection of the null hypothesis G-1 relating participation experience to participation/non-participation does lend support to Cross's COR Model. Faculty who participated in professional development activities related to computer technology did have a significantly more positive stance on past participation experiences. The Spearman correlation between participation and group was -0.751 on interview data and -0.586 on data from the written questionnaires. The failure to reject null hypothesis G-2 neither adds support for or against the COR Model. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

Summary of Statistical Data

A summary of the statistical data is presented in table format in Appendix M in order to facilitate the comparison of data between data sources, constructs, and hypotheses. The researcher rejected three null hypotheses: C-1 goal-expectancy by group, E-1 opportunities and barriers by group, and G-1 participation by group. Conflicting tests of significant differences and, thus, failure to reject the null hypotheses were found for five null hypotheses. Both data sources for the remaining six hypotheses failed to determine a significant difference between groups and/or levels of participation. (See Appendix M for the Summary of Statistical Data by Hypothesis and Data Source.)

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, LIMITATIONS OF THE STUDY, AND SUGGESTIONS FOR FURTHER RESEARCH

In this final chapter an overview of the study is given. The chapter is divided into six sections which follow in this order: summary and discussion of the study, conclusions drawn from the study, theoretical and practical implications of the study, limitations of the study, suggestions for further research, and a final observation.

Summary and Discussion

The research reported was an investigation of the applicability of Cross's Chain-of-Response Model for explaining faculty participation in structured professional development activities. The purpose of the study was to contribute to the accumulation of knowledge in adult education—particularly to the educator's understanding of the motivations of adult learners. An assumption of the study was that the individual has control over his or her destiny, and that his or her participation in learning activities is voluntary.

The study was completed in three phases. During the first phase, the COR Model was adapted to describe faculty who participate in structured professional development activities by defining the model's constructs both constitutively and operationally. The constitutive

and operational definitions were approved by Cross, as were the descriptive statements for each construct.

The second phase included the development of instruments which could be used to determine the utility of the adapted model for distinguishing between participating and non-participating faculty. The instruments developed were the COR Model Interview Schedule with guidelines and the Faculty Questionnaire. The descriptive statements of the constructs which were approved by Cross were used as the basis for developing the instruments.

During the third phase, the interview schedule and questionnaire were administered to two groups of University of Florida faculty-- participants and non-participants in structured professional development activities on computer technology. The data gathered from the faculty were analyzed and compared to the COR Model. The statistics used to analyze the data were median scores, percentile rank, Spearman rank correlations, and the chi-square test of significance.

Instrumentation

Evaluation of design. While the interview schedule used to gather data was adequate to address the questions included in this study, several ways to improve the schedule were revealed. Two major format changes would be beneficial to the recording and coding the data. (See Appendix K for an example of the suggested revisions to the interview schedule.) First, the data categories established should be listed below each question along with space for responses which do not fit in the listed categories. This change would enable

the data to be recorded more rapidly and the categories would serve as a reminder of the type of response sought. If the question on the interview schedule does not elicit the kind of response which was expected, the interviewer could reword the question or probe deeper. Appropriate responses which were not covered by the data categories would be written in the blank spaces. A second format change, leaving space on the left or right margin of the interview schedule for subsequent coding of data, would improve the efficiency of coding data.

Some questions included in the revised schedule did not generally elicit the kind of response intended. The questions with suggested changes follow:

II.1.b. Describe your work assignment (responsibilities) for a typical academic year in that position.

appointment: 9 month ____ 12 month ____ yrs. at UF ____
[Add after space for description " ____% teaching ____%
research ____% administration ____% service ____% other
(specify) ____"]

II.16. Under what circumstances are you willing to participate in ed. activities related to your teaching or research? (e.g. own time, own expense, reward)
[Change to "Under what circumstances are you NOT willing to participate in ed. activities related to your teaching or research? (e.g. own time, own expense, reward)"]

II.17.b. Please divide these cards into two stacks: motivators for you to participate and non-motivators. Rank the motivators in order of importance.
[Change to "Listed on these cards are needs which are believed by some educators to be motivators to participate in educational activities. Please divide the cards into two stacks: one stack for those that would motivate you to participate in structured educational activities and another stack for those that would not. It is possible that all cards would belong in one stack. . . . Now, please rank the motivators in order of importance to you."]

Questions II.14.b. and IV.25.c. and d. received such widely diversified answers (e.g., four hours/week, three weeks/year, two conferences per year) that they could not be used to directly compare

time spent in educational activities. The questions were useful, however, because the discussion about the amount of time spent gave the interviewer insight into what importance was placed on the activities.

The Likert-style "Faculty Questionnaire" which was used as a check against the interview interpretation would have been easier to administer if the directions were different. Instead of directing the respondent to indicate when a question was not applicable by writing "N/A" in the blank, "not applicable" should have been included for each question as the last choice: "f. not applicable."

Consistency of instruments. Categorization of individuals for each construct was consistent between instruments except for two constructs. The responses to the written questionnaire on self-evaluation were generally one category lower than responses to the oral portion of the interview questions on the same construct. The responses to questions on life transitions were generally positive during oral interview and negative on the written questionnaire. (See Table 11 for a comparison of construct stance generated by the COR Model Interview Schedule with the stance generated by the Faculty Questionnaire.)

Significant Findings of the Study

The course of the research was guided by two questions:

1. Does the operationally defined model provide adequate information to explain participation or non-participation?

Table 11. Comparison of construct stance from Interview Schedule with Faculty Questionnaire

	Self-Evaluation			Attitude about Education			Goals and Expectations	
	Most Positive	Less Positive	Least Positive	Most Positive	Less Positive	Least Positive	Positive	Negative
Group I								
1	Q	I		I	Q		I	Q
2	I	Q		I	Q		I	Q
3	I	Q		I	Q	I	I	Q
4	I		Q	I	Q		I	Q
5		I	Q	I	Q		I	Q
6	I	Q		I	Q		I	Q
7	I		Q	I	Q		I	Q
8	I	Q		I	Q		I	Q
9		I	Q	I	Q		I	Q
10	I	Q		I	Q		I	Q
11	I	Q		I	Q		I	Q
12	I	Q		I	Q		I	Q
13			I	Q		I	I	Q
14	I	Q		I	Q		I	Q
15		I	Q	I	Q		I	Q
Group II								
16	I	Q		I	Q		I	Q
17		I	Q	I	Q		I	Q
18		I	Q		Q	I	I	Q
19	Q	I		I	Q		I	Q
20		I	Q	I	Q		I	Q
21		I	Q	I	Q		I	Q
22		I	Q	I	Q		I	Q
23	I		Q		I	Q	I	Q
24		I	Q	I	Q		I	Q
25	Q	I		I	Q		I	Q
26	I	Q		I	Q		I	Q
27		Q	I	Q	I		I	Q
28	I	Q		I	Q		I	Q
29		I	Q			I	I	Q
30	I	Q		I	Q		I	Q

Legend: I = Interview Schedule; Q = Faculty Questionnaire.

*On the Interview Schedule, Level 1 = "no transitions," Level 2 = "<6," Level 3 = "> 5"; on the Faculty Questionnaire, Level 1 = "no transitions," Level 2 = "> 0 transitions."

**On the Interview Schedule, "Highest Awareness" required respondent to describe professional development activities, "Less Awareness" indicated the respondent could identify sponsoring agencies only, "Least Awareness" indicated no awareness of activities or sponsoring agencies. The Faculty Questionnaire did not ask the respondent to describe professional development activities, thus the "Highest" and "Less Awareness" respondents are grouped together.

Table 11. extended

[illegible]

2. Does the operationally defined model provide adequate information to explain the level of participation for those who participate?

A series of hypotheses for each construct were generated to determine if there was a difference between groups on each construct (question "1") and if there was a difference among levels of participation for each construct (question "2"). A summary of the data for each hypothesis is displayed in Appendix M.

Participants versus non-participants. Statistical analysis of the data obtained from faculty members who had participated in at least four sessions of structured activities on computer technology (Group I) and faculty members who had not (Group II) resulted in the following significant findings:

1. Faculty members who were classified as participants believed goals which were important to them were likely to be achieved through participation in educational activities related to computer technology. Faculty members classified as non-participants did not have this expectation.

2. Faculty members who were classified as participants were aware of opportunities to participate in structured activities on computer technology which they believed would be of benefit to them, and they believed they could overcome any situations which they perceived as barriers to their participation. Faculty members who were classified as non-participants were not aware of opportunities which they believed would benefit them and/or they did not believe they could overcome situations they perceived as barriers to their participation.

3. Faculty members who were classified as participants could describe several existing opportunities for professional development on computer technology. Faculty members who were classified as non-participants were not aware of any opportunities or could only minimally identify opportunities which were available.

4. Faculty members who were classified as participants had participated in professional development activities (including both computer and non-computer related activities) and evaluated their experiences in both computer related and non-computer related activities positively. Faculty members who were classified as non-participants had participated in professional development activities other than ones on computer technology and the majority had evaluated their experiences positively.

Levels of participation. Statistical analysis of the data obtained from faculty members who had been classified into levels of participation (1 = least participation, participation in a minimum of four sessions on computer technology with no application, through 3 = greatest participation, participation in more than four sessions and application of at least one) resulted in no significant findings. Data were found to support the rejection of the null hypotheses for the constructs self-evaluation, attitude about education, information, and participation using one of the data collecting methods; however, the rejection was not supported by the second method that was used to evaluate the constructs. Even so, findings concerning three of the constructs are given here because of their high correlations.

1. There was a negative correlation between self-evaluation and level of participation.

2. There was a positive correlation between attitude about education and level of participation.

3. There was a positive correlation between information and level of participation.

The reader is reminded that these findings were deemed as significant by only one of the two methods used to gather the data.

Other Findings of the Study

In the overall model, there appeared to be a positive relationship between the number of constructs which were positive descriptors of the respondent and the level of participation of the respondent. See Figure 10 and Appendices N and O.

Conclusions

The research reported was an effort to determine whether it was possible to describe university faculty members who participate in organized professional development activities using Cross's Chain-of-Response Model. The results of the study provided support for the following conclusions:

1. Motivation of faculty members to participate in learning activities related to computer technology depended largely on point C, goals and expectations. Faculty members who were motivated to participate were likely to seek out educational opportunities and overcome modest barriers. Conversely, modest barriers were likely to preclude the participation of weakly motivated faculty members. Motivated faculty members remembered more detailed information about

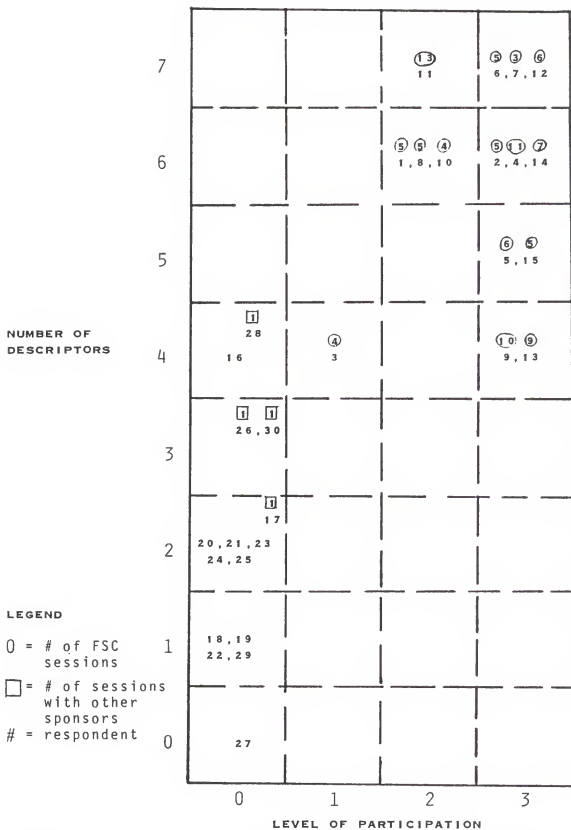


Figure 10. Relationship of the number of constructs which were positive descriptors with the level of participation.

professional development opportunities on computer technology which were available to them. Thus, participants differed from non-participants primarily on their stance on three constructs which lead up to participation: goals and expectations, opportunities and barriers, and information.

2. A high level of participation in professional development activities is an indication that the majority of the constructs in the COR Model are positive descriptors of the faculty member. Conversely, low or non-participation in such activities indicates that few if any of the constructs are positive descriptors of the individual.

Implications

Theoretical Implications

The adapted constructs of Cross's COR Model did describe faculty at the University of Florida who participated in professional development activities related to computer technology. Thus, this study lends support to her model. However, this study did not distinguish between participants and non-participants on three of the constructs: self-evaluation, attitudes about education, and life transitions. Two of the constructs, self-evaluation and attitudes about education, seemed important to the model in order to understand the motivation for participation even though this study indicated no significant difference between participants and non-participants on the two constructs. Perhaps the composition of this sub-population of adults, through prior selectivity into the ranks of university faculty, is predominantly composed of individuals who are positive in

their self-evaluation and who view education as a way of life. Since the results reported here provide empirical evidence that a portion of Cross's model of motivation is valid, additional evidence on individuals who apparently do not have a positive self-evaluation or who view education negatively would provide empirical evidence for more fully testing and developing the model.

The construct life transitions presented several problems to the researcher. During the interviews almost all respondents (both participants and non-participants) identified some recent life-changing event which they had experienced. However, on the written questionnaire the respondents indicated they had not experienced a dramatic change in their lives. The reason for this discrepancy within the data is not understood by the researcher. No matter which data source is used, this construct still did not distinguish between participant and non-participant. Assuming that the interview data were more accurate, perhaps the lack of discrimination was due to the limited nature of learning activities (computer technology) addressed in this study. A broader study which examines learner participation on a variety of topics may find empirical data to support the retention in the COR Model of the construct life transitions.

Strong empirical evidence was found to support the construct goals and expectations as a motivator toward participation. If one's goals and expectations can be changed, then perhaps whether one would participate or not would change also. Virtually the same information was available and the same opportunities and barriers were found for

both participants and non-participants. The way the individual responded to these factors seemed dependent on construct C, importance of goals and expectation that participation will meet goals.

Practical Implications

Very little discrepancy between instruments was found on conclusions drawn about an individual's construct stance, except for the construct life transitions. The implication then is that the shorter, less involved instrument could be used to quickly identify a faculty member's stance on the constructs of the COR Model.

Administrators or others responsible for planning professional development activities for their faculty should be aware of the goals of their personnel. The choice and design of learning activities offered to the faculty should be such that faculty would expect to be better able to reach his or her goal because of participation in the activity. Care should be taken during the dissemination of information concerning professional development opportunities to show the relevance of the activity to the achievement of goals.

Administrators who are responsible for faculty renewal may be able to influence goal setting in some instances. They may be more successful at influencing goal setting if they are cognizant of the needs of the faculty member in his or her academic class. Perhaps sessions on career planning, written professional development plans, or other methods which cause faculty to consider their goals could be implemented.

While a broad range of opportunities and accurate information about the opportunities are important to participation, the

information and opportunities available to both participants and non-participants in this study were virtually the same--as were the barriers to participation listed by each group. Attention should be given to the possibility that disinterest, not lack of information or opportunity, is the reason for lack of participation when evaluating attendance in professional development activities.

Limitations of the Study

The limitations of the instruments and techniques used to measure the constructs are limitations of the study. The development procedures used for the COR Model Interview Schedule and the Faculty Questionnaire perhaps resulted in certain limitations. The comments and recommendations of the expert in social research and the faculty members involved in testing the instruments might be different from the comments and recommendations of others who could have participated in their roles. Perhaps the questions on the interview schedule and the Likert-style statements on the written questionnaire were interpreted differently by different respondents. Perhaps the respondent interaction with interviewer resulted in varying responses.

The lack of a representative sample of faculty across the nation was a limitation. Although a random sample of faculty who had participated in a minimum of four professional development sessions on computer technology was selected and randomly matched to faculty in their same departments who had not participated, the results reported here cannot be generalized to be representative of all college and university faculty because all respondents were at the University of Florida.

Two statistical limitations were the qualitative nature of the data and the size of the sample ($n = 30$). Any limitations inherent in the use of non-parametric statistics are limitations of this study.

Suggestions for Further Research

The results of this study suggest questions for additional research if the understanding of faculty participation in professional development activities is to be advanced.

1. The COR Model did describe faculty members who participated in professional development activities on computer technology and distinguished between participants and non-participants on four of the seven constructs. Would the model be as accurate in distinguishing between participants and non-participants if the content of the learning activities were expanded to include other types of professional development? Would it be as accurate if expanded to include structured learning activities that would not be classified as professional? What percentage of the faculty could typically be considered as non-participants? Does the stance toward participation change over time?

2. Motivation of faculty members to participate in learning activities related to computer technology depended largely on goals and expectations. Is there a set of goals that is universal for all faculties that can be used for planning professional development activities? Can administrators influence the goals set by faculty members? Should they attempt to influence the faculty member's goals? What methods would be effective for causing faculty to set or clarify their short and long range goals? Given a faculty who have

communicated their goals to their administrator, what is the most effective way to build expectation that participation in a learning activity will aid in the achievement of the goal?

3. The researcher had difficulty measuring the construct life transitions. Is there a way to define the construct operationally so that a valid measure of this construct can be made? Does the construct distinguish between participants and non-participants? Do certain types of transitions stimulate involvement in corresponding learning activities (e.g. new baby—parenting classes, new job—professional development)?

4. No conclusive evidence was found to show a relationship between the individual constructs and level of participation. Would the results of the two methods of data collection be congruent for levels of participation if the sample were larger? If the level of participation did not include application of information as one criterion for high participation, would a significant relationship be evident?

5. The faculty members studied were a sub-population of the total population of adults for whom Cross designed her model. Can the technique used to evaluate the model among faculty be adapted to evaluate the model's utility with the broader population? Can the model be used to predict participation in adult learning activities? How do faculty differ with respect to adult learning activities from the general public?

A Final Observation

The findings of this study add to the accumulation of knowledge in adult education--particularly to the understanding of the motivation of university faculty members toward participation in structured professional development activities. Administrators with responsibility for faculty growth and renewal can use information learned through this study to improve their planning for and increase faculty participation in professional development activities; however, further study is needed before the full benefit of Cross's Chain-of-Response Model for understanding participation in adult learning activities can be utilized.

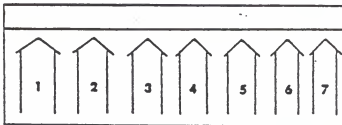
APPENDIX A
FORCE FIELD DIAGRAMS OF MOTIVATIONAL FORCES TOWARD
EDUCATION AFFECTING MIDDLE CLASS ADULTS

Education for Vocational Competence
Lower-Middle Class Level

POSITIVE

NEGATIVE

1. Satisfied survival need
2. Satisfied safety need
3. Strong status need
4. Changing technology
5. Access through organizational ties
6. Acceptance of middle class career drives
7. Familiarity with educational processes



From Participation of Adults in Education: A Force-Field Analysis
by Harry L. Miller, 1967, p. 23. Copyright unknown.

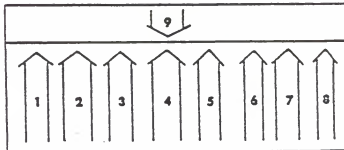
Education for Vocational Competence
Upper-Middle Class Level

POSITIVE

1. Satisfied survival and safety needs
2. Strong status needs
3. Strong achievement needs
4. Change forces in professions and business
5. Growth of professional and executive positions in the economy
6. Familiarity with education
7. Acceptance of middle class career values
8. Strong organizational identification

NEGATIVE

9. Threats to executive groups implicit in changing definition of business roles



From Participation of Adults in Education: A Force-Field Analysis
by Harry L. Miller, 1967, p. 24. Copyright unknown.

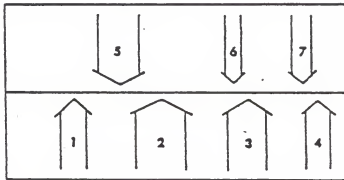
Education for Personal and Family Competence
Lower-Middle Class Level

POSITIVE

1. Satisfied belonging need
2. Strong status need
(leading to anticipatory
taking over of upper-middle
values)
3. Child-centered, nuclear
family
4. Openness to mainstream
value influences

NEGATIVE

5. Traditional value
orientation (Puritan
ethic vs. emergent
values)
6. Stratification of
family roles
7. Mass media satisfaction
of needs in this area



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by Harry L. Miller, 1967, p. 27. Copyright unknown.

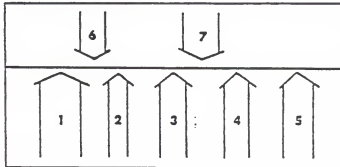
Education for Personal and Family Competence
Upper-Middle Class Level

POSITIVE

1. Satisfaction of lower needs
2. Strong self-realization needs
3. Nuclear, child-oriented family structure
4. Active, associational life
5. Openness to mainstream value influences

NEGATIVE

6. Traditional orientation of business upper-middle males
7. Mass media satisfaction of needs in this area



From Participation of Adults in Education: A Force-Field Analysis
by Harry L. Miller, 1967, p. 28. Copyright unknown.

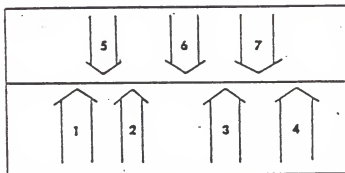
Education for Citizenship Competence
Middle Class Level Generally

POSITIVE

1. Middle class status and recognition needs
2. Cosmopolitanism of upper-middles
3. High level of associational activity and identification with community
4. Middle class object-orientation, abstractions are important

NEGATIVE

5. Personal career orientation as a satisfaction of status needs
6. Traditionalist values of lower-middles and executive upper-middles--resulting in attitude crystallization on community and national concerns
7. Mass media satisfaction of information needs



From Participation of Adults in Education: A Force-Field Analysis
by Harry L. Miller, 1967, p. 30. Copyright unknown.

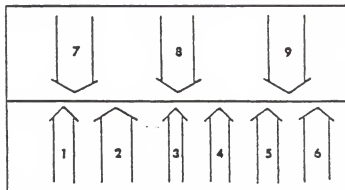
Education for Self-Development
Middle Class Level Generally

POSITIVE

1. Upper-middle value emphasis on satisfaction of self-development needs
2. Frustration of self-development needs among upper-middle women
3. Social mobility drives of lower-middles
4. Emphasis on self-development in the educational experience of many middle class children
5. Upper-middle professional domination of training agencies for business and executive groups
6. Increasing availability of means of self-development

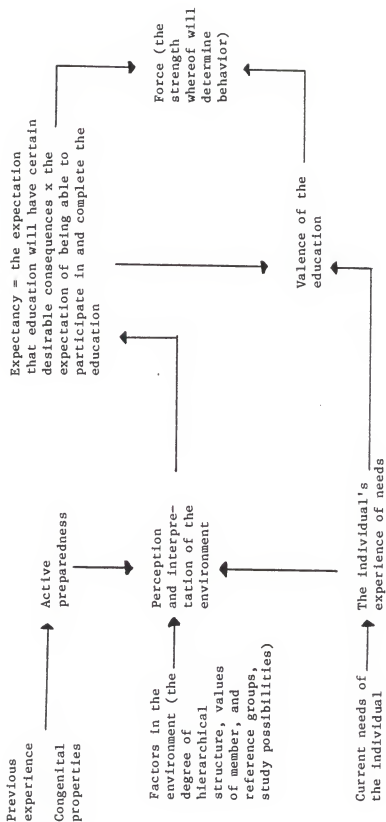
NEGATIVE

7. Strong emphasis on career, and domination of time by it
8. Family orientation of lower-middle women
9. Increased availability of informal educational means of satisfying needs in this area



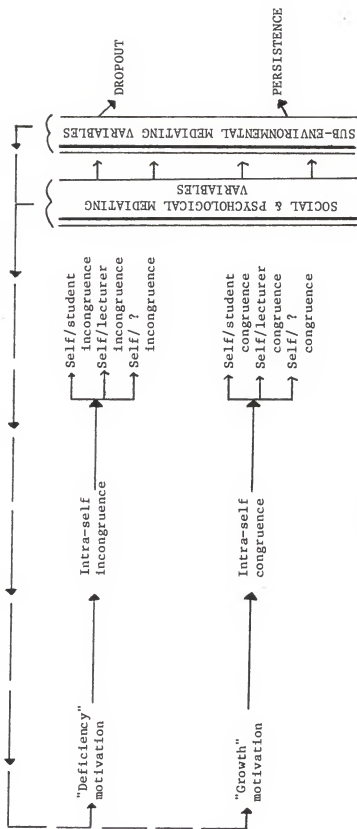
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APPENDIX B
RUBENSON'S PARADIGM OF RECRUITMENT



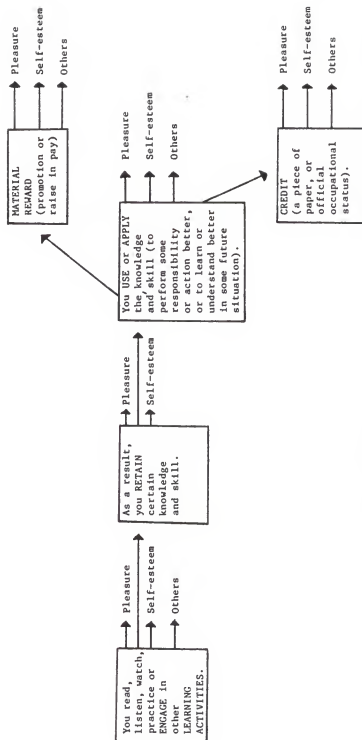
From "Participation in Recurrent Education: A Research Review" by K. Rubenson, 1977, a paper presented at meeting of National Delegates on Developments in Recurrent Education, Paris, for the Organization for Economic Cooperation and Development, p. 35.

APPENDIX C
A MODEL TO EXPLAIN ADULT EDUCATION
PARTICIPATION AND DROPOUT



From "Educational Participation and Dropout: A Theoretical Model" by R. Boshier, 1973, Adult Education, 23, p. 257. Reprinted by permission of the publisher.

APPENDIX D
ANTICIPATED BENEFITS FROM LEARNING



From Anticipated Benefits from Learning by A. Tough, D. Abbey, & L. Orton, 1980. Reprinted by permission of the publisher.

APPENDIX E

DESCRIPTIVE STATEMENTS FOR CONSTRUCTS CROSS-REFERENCED TO THE COR MODEL INTERVIEW SCHEDULE, FACULTY QUESTIONNAIRE, AND CODE BOOK

Self-Evaluation

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Consider them- selves well prepared for their present position.	II.2	1	#1-21,22
2. Rank themselves as instructors in the top quartile of their department.	II.3	2	#1-23
3. Rank themselves as researchers in the top quartile of their department.	II.4	5	#1-24
4. Describe them- selves as good at learning new things.	II.5;II.6; II.7	15	#1-29;26
5. Describe them- selves as enjoying new learning experiences.	II.5;II.6; II.7;II.14	16	#1-44
6. Have or would par- ticipate in profes- sional development, apart from any status these confer.	II.9;II.11; II.17	10	#1-33;38 #2-60,61

Attitudes about Education

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Believe professional development activities are needed or helpful to them personally.	II.11;II.14	17	#1-38,39;42
2. Believe professional development activities are important to their institution.	II.11	18	#1-36,37
3. Perceive that their reference groups value professional development activities.	II.12	21	#1-40
4. Have enjoyed past adult education activities.	II.14	23	#1-44
5. Have enjoyed past professional development activities.	II.14	24	#1-44
6. Look forward to this kind of association with faculty colleagues.	II.17	25	#1-48 #2-54

Goals and Expectations

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Have a goal that is related to the professional development activities (at least indirectly).	II.10	26	#1-31;32
2. Believe participation in the professional development activities will lead to the achievement of the goal.	III.22	28	#2-32,33; #2-34,35; #2-47
3. Believe they are sufficiently prepared to successfully complete the professional development activity.	II.16;III.20; IV.26	27	#1-45-47; #2-30,31; #2-43
4. Believe achievement of the goal will satisfy a need, associated with academic class.	II.1;II.10; II.17	8-14	#1-8;30; #1-33,34; #2-50-61

Life-Transitions

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Describe themselves as experiencing a dramatic change.	V.29	29	#2-62-79; #3-3-17

Information

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Can identify several structured activities on computer technology which are available.	III.18;IV.23	30	#2-24,25; #2-38
2. Can describe existing opportunities for professional development activities on computer technology.	III.18;IV.23		#2-38; #2-24,25

Opportunities and Barriers

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Identify themselves as eligible to participate in structured activities on computer technology sponsored by their academic departments, professional organizations, or other campus organizations.	III.18;III.19; IV.24	32	#1-3; #2-38
2. Can identify several structured activities on computer technology which they believe would benefit them professionally.	III.18;IV.24	31	#2-38;39
3. Believe they can overcome any situations which they identify as barriers.	III.20;III.21; IV.26	33	#2-43;44; #2-45,46; #2-30

Participation

Descriptive Statements	Interview Schedule	Faculty Questionnaire	Code Book
1. Are/have attended professional development activities voluntarily.	II.14	24	#1-42
2. Are/have attended professional development activities on computer technology voluntarily.	III.19;IV.24	36	#2-24, 25; #2-41
3. Evaluate their participation in professional development activities positively.	II.14	35	#1-44
4. Evaluate their participation in professional development activities on computer technology positively.	II.14;IV.25; III.18,19	36	#2-26, 27; #2-42

APPENDIX F INTERVIEW GUIDELINES

To insure that the data obtained during the interview is worth analyzing, all significant elements of the interview situation should be controlled in order that the data represent what the interview schedule was designed to describe. Topics to be addressed by these guidelines are the interviewer, the respondent, the surroundings of the interview, and the process of questioning and recording.

The Interviewer

Parten's (1950, pp. 138-140) list of characteristics which the "ideal" interviewer should possess have been adapted for the current study and are given in the following list.

1. Ability to talk easily to university faculty.
2. Ability to analyze situations and people quickly and accurately.
3. Keen observational skills.
4. Persistence and thoroughness.
5. A genuine interest in people.
6. Conscientiousness, honesty, and reliability.
7. A good memory.
8. A legible handwriting.
9. An interest in research and ideas.
10. A confidence building appearance and manner.

11. Ability to grasp and follow instructions precisely.
12. Ability to summarize the information obtained and to record the information objectively and accurately.

The Respondent

The sample to be interviewed (and alternates in case individuals refuse to participate or cannot be reached) should be selected before beginning the interview process. Letters of introduction which present the project should be sent five to seven days prior to a follow-up telephone call.

The purpose of the telephone call is for the interviewer to introduce himself/herself, to answer any questions which may have arisen as a result of the letter, and to schedule the interview. During the call, the interviewer should also identify a location (preferably in the proximity of the faculty member's office) which would be conducive to a good interview. If the interviewer plans to tape the interview, permission to do so should be requested at this time. A written telephone conversation guide should be used to assure that the telephone contact accomplishes its purposes and that there is consistency between phone contacts.

Environment of Interview

Favorable interviewing conditions include the following:

1. The interview should be held in private. The presence of friends or office mates is not conducive to a frank, uninhibited response.

2. There should be no distracting or disturbing interruptions such as ringing telephones or people coming and going.

3. The setting should be comfortable to the respondent and chairs should be placed so that the individuals can have eye contact but not violate the respondent's personal space.

4. If the interview is to be recorded, the interviewer should check the batteries and tapes prior to the interview to make sure everything is working properly. (Do not plan to use electrical plug-in for the recorder as the outlets may be inconvenient to your seating arrangement.) Place the tape recorder out of the way in order to minimize its effect on the interview. Also, arrive at the interview location early so that you may be set up and ready for the interview at the appointed time.

5. A positive atmosphere should prevail, with interviewer expectations that the respondent has the time and is willing to assist with the study.

Conducting the Interview

Asking the questions. The interviewer should follow the schedule order of questions, asking every question unless otherwise specified. The interviewer should ask the questions as written in order to allow comparison of answers from all respondents. Even the interviewer's voice inflections should be the same for each respondent, if possible. In cases where one of several alternative answers is to be chosen by the respondent (see the second part of questions II.1.b. and II.5. on the interview schedule), the interviewer should read the "possible" answers out loud and let the respondent choose the one with which he

agrees. If the interviewer has reason to believe the respondent misunderstood a question, he or she should repeat the question. The interviewer should clarify the question only if the respondent clearly cannot understand the question or sees more than one meaning in the question.

Care should be taken, by the interviewer, not to "bias" or "lead" the respondent by his/her remarks either before or after asking a particular question. In a case where the interviewer has asked an open-ended question and the respondent gives a vague or general answer, no answer at all, or a statement that he does not know, the interviewer should follow with a neutral probe. Neutral probes suggested by Bailey (1978) include the following:

1. Repeating the question. This is done whenever the respondent hesitates or appears not to understand the question. With lengthy questions it is often necessary to repeat two or three times before the respondent has it clearly enough in mind to begin concentrating upon an answer.
2. Repeating the answer. This type of neutral probe can be used by the interviewer who is not certain that he or she understood the respondent's answer correctly. Repetition of the answer can correct errors and assure both respondent and interviewer that the answer is recorded correctly. Repetition also gives the respondent an opportunity to think about elaborating it further.
3. Indicating understanding and interest. The Interviewer's Manual (University of Michigan, 1969) recommends that the interviewer indicate that he or she has heard the answer and approves of it, thus stimulating the respondent to continue.
4. Pause. The Manual also recommends that the interviewer pause and say nothing if the response is obviously incomplete. This indicates that the interviewer knows the respondent has begun to answer and is waiting for him or her to finish.
5. A neutral question or comment. "How do you mean that?" or "Tell me more" indicate to the respondent that his or her answer is on the right track but that more information is desired. (p. 173)

There are several shifts in questioning in the COR Model

Interview Schedule: between sections designated by Roman numerals and before questions 11, 29, and 30. Introductory statements such as "The next group of questions asks for your opinion on . . ." may be necessary in order to change the mental "set" of the respondent when a shift of subject occurs on the schedule.

Recording the information. The interviewer should write legibly and keep the schedule as neat as possible; schedules should not be copied over. There should be an entry for every item on the schedule except for either section III or IV. Questions in section III are for Group II (non-participants) while section IV questions are appropriate for participants only. The interviewer should listen attentively to what the respondent says--the words he uses, the way she phrases her response--and record them as closely as possible. The entire answer need not be recorded but the statements/phrases that are pertinent to answering the question must be. If the interviewer needs additional time for recording an answer, "fill-in" questions may be asked, such as, "Why do you think so?" or "What do you mean by that?"

Sometimes a respondent cannot align himself with any one of the alternatives presented in opinion questions without specifying the condition under which he holds a given view. In addition to checking the most appropriate answer, the interviewer should also note the conditions of the qualified response. Notes should be made to explain entries which may appear to be inconsistent or unreliable.

Finally, the interviewer should add his own appraisal of the respondent and/or situation to the interview schedule, if he believes the supplementary observations would be useful to the

study. These comments should be clearly marked as those of the interviewer.

Further Information

A more detailed presentation concerning interview procedures in general can be found in Chapter X of Parten's 1950 book Surveys, Polls, and Samples or Chapter 8 in Bailey's (1978) Methods of Social Research. Specific questions related to the COR Model Interview Schedule should be referred to the director of the study.

APPENDIX G
COR MODEL INTERVIEW SCHEDULE

COR MODEL INTERVIEW SCHEDULE

I. Introduction of interviewer and study

II. Questions for respondent

1. The UF catalogue lists your position as _____.
Is that correct? no-- a yes-- b
 - a. What is the correct title of your position?
 - b. Describe your work assignment (responsibilities) for a typical academic year in that position. _____
 appointment: 9 month _____ 12 month _____ yrs. at UF _____
2. How do you rate your preparation (training and experience) for your present assignment on a scale of 1 to 5? poor 1 2 3 4 5 excellent
3. Within your college, where would you rank yourself as a teacher-- top quartile? top half? bottom half? bottom quartile?
4. Within your college, where would you rank yourself as a researcher-- top quartile? top half? bottom half? bottom quartile?
 What kinds of research do you do? _____
 What do you have to do to do that kind of research? _____
 How do you analyze your data? _____
 Do you do the analysis or does grad. assts., etc.? _____
5. How would you like to change your assignment? _____
 Please indicate the importance of the assignment change on a scale of 1 to 5. Not very important 1 2 3 4 5 Very important
6. If you were given a sabbatical for the up-coming semester with full pay, what would you do?
 Why?
7. What would you like to be doing --say 10 or 15 years from now?
8. Are there any intermediate steps you are working on in order to reach that goal?
9. Different people are motivated by different things or needs to achieve certain goals. What do you expect to accomplish by achieving these goals?
10. Does accomplishing your goal(s) involve the use or understanding of computers--either directly or indirectly? If so, how?
 How do you see computers as relating to your job?

Range		Goals	Need	Computer	
S	L			D	I

11. In your opinion, is it important to the University of Florida for you to participate as a learner in structured activities related to teaching and research? By structured activities I mean activities that were preplanned by your department, another department, your professional associations, etc. Please rate on a scale of 1 to 5.
Definitely not important 1 2 3 4 5 Very important

Please explain why you believe that. _____

12. What is the attitude of your colleagues about structured activities related to teaching and research?
13. Do you see any relationship between the faculty member's rank in the department and his/her opinion about the importance of such activities?

14. Have you voluntarily participated as a learner in educational activities since completing your last degree? (For example, leisure courses in piano, French, seminars on your discipline, computer courses, etc.)
If NO → 16 YES → a

- a. Describe some recent educational activities that you have been involved in.
- b. Approximately how many hours over what period of time did you spend learning about the subject?
- c. Did you enjoy the activities?

Pro.	Subject	Period		Enjoy	
		Hrs./of time		Y	N

15. Would you classify any of the above activities as directly related to your teaching or research? If so, which ones?
16. Under what circumstances are you willing to participate in ed. activities related to your teaching or research? (e.g. own time, own expense, reward)
17. Do you attend seminars arranged by your dept. on recent developments in your discipline?

No--Why not? _____

Yes--what benefits do you anticipate will result from your participation? (Rank benefits in order of importance if there is more than one.)

Please divide these cards into two stacks: motivators for you to part. and non-motivators. Rank the motivators in order of importance.

III. Questions for NON-PARTICIPANTS (Group II)

18. Are you aware of any structured activities on computer technology which have been or are being sponsored by your department, professional organizations, or other campus organizations? NO→ V Yes→ a
- Describe them.
 - Identify any that you believe would benefit you professionally.

Benefit	Activities	Attended

19. Have you voluntarily attended any of these activities? NO→ 20
YES→ Which ones?

SKIP TO SECTION IV FOR PARTICIPANTS

20. If not, why not?

21. Do you believe you will be able to (overcome whatever they identified in "20") within the next six months and participate in the (activity you identified as beneficial in "18")? Indicate the strength of your answer on a scale of 1 to 5. 1=not at all 2=slight chance 3=50% chance 4=strong possibility 5=very sure barrier can be overcome
22. In an earlier question (#10) you said that the use or understanding of computers would help you accomplish at least one of your professional goals. Would participation in (activities identified in "18") help you achieve your goal(s)? NO→ Section V YES→ If you do complete the computer activity just mentioned (see #18), will you then be able to achieve your goal(s)? Indicate your answer on a scale of 1 to 5.
very unlikely 1 2 3 4 5 very likely

GO TO SECTION V.

IV. Questions for PARTICIPANTS (Group I)

23. You did (not) mention earlier that you have participated in educational activities on computer technology as a student. I would like to focus the next few questions on that area. Please identify and describe the structured activities in which you are eligible to participate on computer technology which have been or are being offered by your department, professional organizations, or other campus organizations.
24. Did you voluntarily participate in any of these activities? NO→ 18b
YES→ Please identify which ones.
25. Please answer the following questions for each computer technology activity you have participated in:
- What was your objective?
 - Were you successful? If not, why not?
 - How much structured time did you spend on this activity? (class time, etc.)
 - How much additional time did you spend on your own on this activity? (application, additional practice, etc.)
 - Are you currently using the information/skill you gained from this activity? If yes, how?

[illegible]

26. What difficulties did you have to overcome in order to participate in the professional development activities on comp. technology?

27. Did or will your successful completion of the(se) activities on comp. tech. contribute to your achieving the goals you identified in Q-10? (Please indicate how helpful on a 5-point scale.)

No help at all 1 2 3 4 5 Virtually assures its achievement

28. Have any of your colleagues participated in ed. activities on computer tech.?

V. Questions for all respondents

29. Life transitions are gradual or dramatic periods of change which require adjustments to new positions in life. These changes are roughly related to one's age and social role. Please identify from this list any changes you have experienced in the past 18 months:
30. Please respond to this written questionnaire which will be used as a check on the interpretation of information gained from the interview.
31. Have you thought of anything related to your participation (or non-participation) in structured ed. activities that is relevant to this study but we have not discussed?

32. Closure--thanks, confidentiality, share results if intetested→ Y N

- ___ knowledge of subject matter
 - ___ economic reasons (maintenance of or advancement on job, etc.)
 - ___ associational reasons (relationships w/members of dept. etc.)
 - ___ recognition of your efforts and accomplishments
 - ___ achievement needs
 - ___ self-development
-

Marker Events

- ___ Leave home
 - ___ Establish new living arrangements
 - ___ Enter college
 - ___ Start first full-time job
 - ___ Select mate
 - ___ Marry
 - ___ Establish home
 - ___ Become parent
 - ___ Get hired/fired/quit job
 - ___ Enter into community activities
 - ___ Establish children in school
 - ___ Progress in career or consider change
 - ___ Possible separation, divorce, remarriage
 - ___ Possible return to school
 - ___ Crucial promotion
 - ___ Break with mentor
 - ___ Responsibility for three-generation family;
i.e., growing children and aging parents
 - ___ For women: empty nest; enter career and
education
 - ___ Cap career
 - ___ Become mentor
 - ___ Launch children; become grandparents
 - ___ New interests and hobbies
 - ___ Physical limitations; menopause
 - ___ Active participation in community events
 - ___ Possible loss of mate
 - ___ Health problems
 - ___ Preparation for retirement
 - ___ Retirement
 - ___ Physical decline
 - ___ Change in finances
 - ___ New living arrangements
 - ___ Death of friends/spouse
 - ___ Major shift in daily routine
-

Age Group

- ___ 25 and below
- ___ 26-35
- ___ 36-45
- ___ 46-55
- ___ 56-64
- ___ 65+

Card Questions

In addition to the five pages of interview schedule, six 3 x 5 index cards were used with the last part of question II.17. On each card was listed either knowledge of subject matter, economic reasons (maintenance of or advancement on job, etc.), associational reasons (relationships with members of department, etc.), recognition of your efforts and accomplishments, achievement needs, or self-development. The interviewer shuffled the cards before handing them to the respondent. The respondent divided the cards into one stack of motivators to participate and one stack of non-motivators. (All cards could have been placed into one stack if the respondent so chose.) The respondent then ranked the cards in order of importance. While the respondent completed the written Faculty Questionnaire, the interviewer transferred the information from the cards to the summary sheet.

Marker Events

Following the explanation of what was expected in Question V.29, the respondent was given the list of "marker events" to check ones which were appropriate. The respondent was asked to check his/her age group after finishing with the marker events.

APPENDIX H
FACULTY QUESTIONNAIRE

Please indicate how strongly you agree or disagree with the following statements by writing the appropriate letter in the blank to the left of each question. Should a statement not apply to you, place N/A (not applicable) in the blank.

- _____ 1. Because of my past training and experience, I am well prepared for the tasks required of me in my present position at the university.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 2. If I ranked the faculty in my department based on their instruction, I would rank myself in the top quartile.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 3. If my colleagues ranked the faculty in our department based on their instruction, I would be ranked in the top quartile.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 4. Students in my department would rank me in the top quartile of all faculty in the department if the ranking was based on instruction.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 5. If I ranked the faculty in my department based on their research, I would rank myself in the top quartile.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 6. Colleagues in my department would rank me in the top quartile of all faculty in the department if the ranking was based on research.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree

- _____ 7. If I had an opportunity to participate in a learning experience involving an instructional or research technique that was totally new to me, I would choose to participate.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 8. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because my colleagues went to the trouble to plan the seminar.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 9. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because I find this type of association with colleagues pleasureable.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 10. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because of a concern for self-development.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 11. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because I believe it is important for my colleagues to recognize that I am "keeping up with" current developments in the field.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 12. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because it is important for me to keep up with current developments in the field.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 13. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because other faculty members would expect me to participate.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 14. If a committee of my colleagues arranged a seminar on a recent development in my discipline, I would attend because my participation is important for me if I am to advance in my position in the department.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree

- _____ 15. I am good at learning new things.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 16. I enjoy learning new things.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 17. Structured educational activities which focus on research/instruction are needed or helpful to me personally.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 18. Structured educational activities which focus on research/instruction are important to the University of Florida.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 19. My dean values structured educational activities which focus on research/instruction.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 20. My department chair values structured educational activities which focus on research/instruction.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 21. The faculty in my department value structured educational activities which focus on research/instruction.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 22. My spouse supports my participation in structured educational activities on research/instruction.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 23. I have enjoyed participation as a student in educational activities since completing my last degree.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 24. I have enjoyed participation as a student in educational activities related to research/instruction since my last degree.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree

- _____ 25. Associating with faculty colleagues in educational situations where we are both students is enjoyable.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 26. I have a professional goal which is related to the use or understanding of computers.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 27. I am/was sufficiently prepared to complete successfully educational activities on computer technology which are/were available to me.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 28. Participation in educational activities on computer technology has/will lead to the achievement of a professional goal of mine.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 29. Within the past 18 months, I have experienced a dramatic change in my life (e.g. new job, crucial promotion, divorce, health problems, etc.).
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 30. I am aware of several structured activities on computer technology which are being or have been sponsored by departments on campus or professional organizations.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 31. I am aware of several structured activities on computer technology which have or would benefit me professionally.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 32. I am eligible to participate in the structured activities on computer technology.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 33. I can/have overcome any difficulties (e.g. prohibitive demands on time, transportation problems, etc.) which would hinder my participation in structured activities on computer technology.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree

- _____ 34. My present understanding of and skills in computer technology are adequate for someone in my position at this university.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 35. My participation as a student in structured educational activities has been a positive experience.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree
- _____ 36. My participation as a student in structured educational activities on computer technology has been a positive experience.
a. strongly agree b. agree c. no opinion
d. disagree e. strongly disagree

APPENDIX I
LETTER OF INTRODUCTION

As part of future planning for the Office of Instructional Resources, we have sent a questionnaire to a random sample of faculty at the University of Florida to solicit their views and opinions of various professional activities which the Office should provide. In addition, we pulled a very small sample of faculty which we would like to personally interview. You were chosen in that sample. Would you be willing to give us 30 minutes of your time for the interview?

Someone from OIR will be calling you in the next few days to arrange an appointment. I hope you will be willing to help.

Sincerely,

Jeaninne N. Webb
Director
Office of Instructional Resources

JNW:mrh

APPENDIX J
INITIAL TELEPHONE CONTACT GUIDE

Time/Date

Initial Telephone Contact

Hello _____. This is Winnie Cooke, and I am calling you in reference to a letter you received from the Office of Instructional Resources concerning a study we are doing on professional activities. Did you receive the letter?

Let me give you some background data about the study. You were selected to participate because of your position in your career development and your past participation in professional activities. You have information that we need in order for us to understand what motivates faculty to continue to develop professionally. A considerable amount of time has already been invested by several persons. We have researched the literature on the topic and have used a mail-out to obtain general kinds of data. Now we need the information you can supply through an in-depth interview to either confirm, refute, or otherwise alter our hypotheses concerning why faculty members do or do not participate as a student in structured educational activities related to their profession.

The information you and the other faculty members supply will be compiled and presented in a report. This report will be used for planning of professional activities in the future. This part of the study is actually an attempt to look at professional activities in a broad, theoretical context and information given by all of the faculty members will be presented in a manner that will not reveal the identity of the persons who participated in the study. (I really do not expect us to touch on any topic that you would not be happy to be quoted on, however.)

The interview should take about 30-45 minutes of uninterrupted time. Do you know of a comfortable place in your area where the two of us could meet without the telephone ringing or other faculty wandering in and out?

When is a good time for you?

OPTIONAL

I would like to record the interview so that I can listen more intently (without having to take so many notes) and can refer back to the tape if I need to later. Would that bother you?

If NO--->I really don't expect that we will touch on any topic that you would not want recorded; but if we did, I would turn the recorder off at your request or we could edit it out at the end of our session. (PAUSE)

Well, if you are still uncomfortable with the recorder, I won't use it. It is your open response to the questions that I need anyway--not the recording. The recorder would have just made my job a little easier.

Well, have we covered everything? The interview is scheduled for _____ in _____. (Should I reserve that room, and if so, whom should I contact to make the reservation?)

Do you have any questions I have not answered about the study or what I need from you?

As I mentioned earlier, the purpose of the interview is to determine what motivates faculty to participate or not participate as a student in structured educational activities related to their profession, and I'm glad you have agreed to participate in the study because we really believe examining the topic from your perspective is important to our getting an accurate understanding of what's happening.

I look forward to talking with you _____.

Bye

APPENDIX K
SUGGESTED REVISIONS FOR CODING OF THE
INTERVIEW SCHEDULE

SUGGESTED REVISIONS TO THE INTERVIEW SCHEDULE

I. Introduction of interviewer and study

II. Questions for respondent

- 8 _ 1. The UF catalogue lists your position as _____.
 9 _ Is that correct? no→ a yes→ b
- 10 _ a. What is the correct title of your position?
- 12 _ b. Describe your work assignment (responsibilities) for a typical
 14 _ academic year in that position. _____
 16 _ appointment: 9 month _____ 12 month _____ yrs. at UF _____
- 18 _ 2. How do you rate your preparation (training and experience) for your
 19 _ present assignment on a scale of 1 to 5? poor 1 2 3 4 5 excellent
- 21 _ 3. Within your college, where would you rank yourself as a teacher--
 23 _ top quartile? top half? bottom half? bottom quartile?
- 24 _ 4. Within your college, where would you rank yourself as a researcher--
 top quartile? top half? bottom half? bottom quartile?
- 25 _ What kinds of research do you do? _____
 What do you have to do to do that kind of research? _____
 How do you analyze your data? _____
 Do you do the analysis or does grad. assts., etc.? _____
- 26 _ 5. How would you like to change your assignment? _____
 Please indicate the importance of the assignment change on a scale of
 27 _ 1 to 5. Not very important 1 2 3 4 5 Very important
- 29 _ 6. If you were given a sabbatical for the up-coming semester with full
 pay, what would you do?
- Why?
- 30 _ 7. What would you like to be doing --say 10 or 15 years from now?
- 31 _ 8. Are there any intermediate steps you are working on in order to
 32 _ reach that goal?
- 33 _ 9. Different people are motivated by different things or needs to achieve
 certain goals. What do you expect to accomplish by achieving these goals?
- 35 _ 10. Does accomplishing your goal(s) involve the use or understanding of
 computers--either directly or indirectly? If so, how?
- How do you see computers as relating to your job?

Range		Goals	Need	Computer
S	L			
				D I

APPENDIX L

CODE BOOK FOR COR MODEL INTERVIEW SCHEDULE

Card 1

- 1 _ _ ID#
- 3 _ Group: 1 = participant, 2 = non-participant
- 4 _ College: 1 = Agriculture, 2 = Architecture, 3 = Education,
4 = Engineering, 5 = Health Related Professions, 6 = Law,
7 = Liberal Arts and Sciences, 8 = Medicine
- 5 _ _ Dept.: 1 = Agricultural Engineering, 2 = Architecture, 3 =
Entomology and Nematology, 4 = Food and Resource Economics,
5 = Foundations of Education, 6 = Geology, 7 = Health and
Hospital Administration, 8 = Home Economics, 9 = Law,
10 = Pediatrics, 11 = Psychiatry, 12 = Psychology, 13 =
Physiological Sciences, 14 = Zoology
- 7 _ Sex: 1 = M, 2 = F
- 8 _ Rank: 1 = assistant professor, 2 = associate professor,
3 = full professor, 4 = distinguished research professor,
5 = graduate research professor
- 9 _ Administrative title: 1 = no, 2 = yes
- 10 _ _ % teaching
- 12 _ _ % research
- 14 _ _ % service and other
- 16 _ _ % administration
- 18 _ Appointment: 1 = 9 months, 2 = 12 months
- 19 _ _ Years at UF: actual (round to nearest whole)
- 21 _ _ Preparation: 1.0-5.0
- 23 _ Teacher: 1 = top quartile, 2 = top half, 3 = bottom half,
4 = bottom quartile, 0 = does not apply

- 24 _ Researcher: 1 = top quartile, 2 = top half, 3 = bottom half, 4 = bottom quartile, 5 = not applicable
- 25 _ Statistical data: 1 = none, 2 = others have primary responsibility for analysis, 3 = interviewer has primary responsibility for analysis
- 26 _ Role change: 1 = minor, 2 = dramatic, 3 = no change
- 27 _ Change importance: 1.0-5.0, 00 = N/A
- 29 _ Sabbatical: 1 = does not want, 2 = would use to improve knowledge/skills, 3 = would use to raise his/her status, 4 = to get away from it all, 5 = does not want now, but would consider later when circumstances change, 6 = complete current/proposed projects, 7 = already had one
- 30 _ Long range goal: 1 = promotion in dept. or field; 2 = improved reputation; 3 = major change in career direction; 4 = no change, continue doing current assignment; 5 = personal; 6 = advancing knowledge in his chosen field through research; 7 = continue academic career and also establish private practice/consultation; 8 = improved artistic skills in his discipline; 9 = achieve balance between work and artistic pursuits
- 31 _ LR goal/computer: 1 = related directly, 2 = related indirectly, 3 = not related
- 32 _ Short range goals: 1 = none, 2 = increased/improved research, 3 = increased/improved teaching, 4 = increased/improved service, 5 = increased/improved computer skills, 6 = win recognition in national contest in his discipline, 7 = decrease current work load, 8 = career advancement to next step, 9 = other
- 33 _ Goals-needs (first two given): 1 = status, 2 = economics, 3 = keep up to date, 4 = advancing the body of knowledge in chosen field, 5 = personal satisfaction, 6 = power/influence over decision making, 7 = needs are satisfied, 8 = stay active, 9 = other
- 35 _ Computers--job related: 1 = major importance, 2 = minor importance, 3 = not important
- 36 _ Learner importance: 1.0-5.0
- 38 _ Learner importance--why (first two given): 1 = no, usually not specific to my area; 2 = yes, to stay current; 3 = yes, more efficient way to learn; 4 = yes, to set example for other faculty; 5 = yes, depending on relevance to area; 6 = yes, funding for structured activities is usually contingent on grants (i.e., competitive); 7 = yes, provides validation for college; 8 = yes, personal satisfaction; 9 = other

- 40 _ Attitude--colleagues: 1 = do not know, 2 = negative,
3 = mixed, 4 = positive
- 41 _ Relationship to rank: 1 = do not know, 2 = none or mixed,
3 = higher rank correlates with more participation, 4 =
higher rank correlates with less participation, 5 =
participation correlates with factor other than rank,
6 = other
- 42 _ Voluntarily participated since degree: 1 = no; 2 = yes,
teaching; 3 = yes, research; 4 = yes, teaching and research;
5 = yes, other; 6 = teaching, research and other; 7 =
teaching and administration; 8 = post-doctoral work
- 43 _ Degree of participation--other: 1 = none, 2 = 1 class or
conference or equivalent, 3 = "everything else," 4 = heavy
participation: completion of 3 courses or equivalent (much
time commitment)
- 44 _ Enjoyment: 1 = no, 2 = yes, 3 = not applicable, 4 = some of
the time
- 45 _ _ Circumstances limit participation: 1 = personal cost, 2 =
time constraints, 3 = setting, 4 = content, 5 = parking
problems, 6 = must personally be interested--not as part of
job or for benefit of UF, 7 = not a priority, 8 = ability to
achieve goals of program, 9 = other
- 48 _ _ Department seminars: 1 = no, none offered; 2 = no, offered
but do not attend; 3 = sometimes; 4 = yes, to increase
awareness of what is going on; 5 = yes, to increase
knowledge of subject matter; 6 = yes, to make professional
contacts within and without the department; 7 = yes, social
reasons; 8 = yes, important to institution; 9 = respondent
organizes seminars himself
- 50 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing
1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2,
06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management
Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13
= Basic Programming, 14 = Basic Programming 2, 15 = Basic
Programming 3, 16 = Basic Programming 4, 17 = Statistical
Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy
Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to
computers at NERDC/CIRCA
- 52 _ Objective: 1 = learn how to use computer, 2 = to become
familiar with software, 3 = to learn programming, 4 =
understand microcomputer
- 53 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 54 _ Information applied: 1 = research, 2 = teaching, 3 = word
processing

- 55 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 57 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 58 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 59 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 60 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 62 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 63 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 64 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 65 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 67 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 68 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat

- 69 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 70 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 72 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 73 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 74 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 75 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 77 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 78 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 79 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 80 1 Card #1

Card 2

- 1 _ _ ID#
- 3 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic

Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA

- 5 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 6 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 7 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 8 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 10 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 11 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 12 _ Information applied: 1 = research, 2 = teaching, 3 = word processing
- 13 _ _ Computer activity: 01 = Intro to IBM, 02 = Word Processing 1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2, 06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13 = Basic Programming, 14 = Basic Programming 2, 15 = Basic Programming 3, 16 = Basic Programming 4, 17 = Statistical Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to computers at NERDC/CIRCA
- 15 _ Objective: 1 = learn how to use computer, 2 = to become familiar with software, 3 = to learn programming, 4 = understand microcomputer
- 16 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 17 _ Information applied: 1 = research, 2 = teaching, 3 = word processing

- 18 -- Computer activity: 01 = Intro to IBM, 02 = Word Processing
1, 03 = Word Processing 2, 04 = Visicalc 1, 05 = Visicalc 2,
06 = Lotus 1, 07 = Lotus 123, 08 = Data Based Management
Systems, 09 = CMS 1, 10 = CMS 2, 11 = CMS 3, 12 = CMS 4, 13
= Basic Programming, 14 = Basic Programming 2, 15 = Basic
Programming 3, 16 = Basic Programming 4, 17 = Statistical
Analysis System, 18 = TCP, 19 = 4 courses in basic at Tandy
Corp., 20 = Fortran, 21 = Easywriter, 22 = Intro to
computers at NERDC/CIRCA
- 20 _ Objective: 1 = learn how to use computer, 2 = to become
familiar with software, 3 = to learn programming, 4 =
understand microcomputer
- 21 _ Objective achieved: 1 = no, 2 = yes, 3 = somewhat
- 22 _ Information applied: 1 = research, 2 = teaching, 3 = word
processing
- 23 _ # of additional computer activities
- 24 -- Total # of computer activities
- 26 -- Total # of objectives achieved
- 28 -- Total # of info. applied
- 30 -- Difficulties (list first two): 1 = none, 2 = amount of
time, 3 = location, 4 = workload, 5 = scheduling conflicts,
6 = fear of computer technology, 7 = (for Circa classes)
boredom, 8 = parking
- 32 -- Contribution to goals: 1 = positive comment, 2 = negative
comment, 3 = no comment or neutral comment
- 34 -- Contribution--rank (actual): 1.0-5.0
- 36 _ Colleague participation: 1 = no, 2 = yes, 3 = don't know
- 37 _ Did this respondent already have computer skills? 1 = none,
2 = minimal, 3 = considerable
- 38 _ Awareness of computer activities: 1 = not aware of any, 2 =
can name sources vaguely, 3 = can name sources but not
describe offerings clearly, 4 = can name sources and
describe several offerings, 5 = can name sources and
describe one offering
- 39 _ Beneficial: 1 = no; 2 = unsure; 3 = marginal; 4 = yes to at
least one; 5 = yes, to his staff; 0 = not applicable
- 40 _ Attendance: 1 = no; 2 = yes, FSC sponsored; 3 = yes, other
sponsor
- 41 _ Total # of activities attended

- 42 _ Total # of activities with objectives achieved
- 43 _ _ Barriers (first two): 1 = none, 2 = location, 3 = work load, 4 = time, 5 = low priority, 6 = crowded, 7 = class was filled, 0 = not applicable
- 45 _ _ Believe you can overcome barrier (actual): 1.0-5.0, 00 = not applicable
- 47 _ Contribution to goal: 1 = yes, 2 = not, 3 = not sure, 0 = N/A
- 48 _ _ Rank of contribution: 1.0-5.0, 00 = no importance to goal
- 50 _ _ Knowledge of subject matter: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 52 _ _ Economic reasons: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 54 _ _ Associational reasons: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 56 _ _ Recognition of accomplishments: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 58 _ _ Achievement needs: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 60 _ _ Self-development: 1st blank 1 = no, 2 = yes; 2nd blank, actual rank
- 62-79 Marker events: 1 = no, 2 = yes
- 80 2 Card #2

Card 3

- 1 _ _ ID#
- 3-17 Marker events (beginning with Cap career): 1 = no, 2 = yes
- 18 _ Age group: 1 = 25 and below, 2 = 26-35, 3 = 36-45, 4 = 46-55, 5 = 56-64, 6 = 65+
- 19-54 Questionnaire: 1 = strongly agree, 2 = agree, 3 = neutral/no opinion, 4 = disagree, 5 = strongly disagree, 6 = not applicable
- 55 _ Made suggestions: 1 = no, 2 = yes (itemize on white sheet)
- 56 _ _ # of sessions at Faculty Support Center (FSC) (actual count from OIR records)

57 _ Applied: 1 = no, 2 = yes

58 _ Participation rate: 0 = no sessions at FSC, 1 = 4 sessions at FSC but none applied, 2 = more than 4 sessions at FSC but not applied or 4 sessions with at least one applied, 3 = more than 4 sessions at FSC and at least 1 applied

APPENDIX M
SUMMARY OF STATISTICAL DATA BY HYPOTHESIS
AND DATA SOURCE

Hypothesis	Relationship Tested	Source of Data	Chi-Square	Degree of Freedom	Probability	Spearman Correlation	Decision
A-1	Self-evaluation by Group	Interview Schedule Questionnaire	3.590	2	0.1661	-0.302	fail to reject null
			0.577	2	0.7495	-0.013	fail to reject null
B-1	Attitude about Education by Group	Interview Schedule Questionnaire	2.167	2	0.3385	-0.144	fail to reject null
			2.154	2	0.3406	-0.183	fail to reject null
C-1	Goal-Expectancy by Group	Interview Schedule Questionnaire	9.600	1	0.0019	-0.566	reject null
			13.889	1	0.0002	-0.680	reject null
D-1	Life Transitions by Group	Interview Schedule Questionnaire	2.743	2	0.2537	-0.239	fail to reject null
			0.682	1	0.4090	0.151	fail to reject null
E-1	Opportunities and Barriers by Group	Interview Schedule Questionnaire	30.000	1	0.0001	-1.000	reject null
			8.571	1	0.0034	-0.535	reject null
F-1	Information by Group	Interview Schedule Questionnaire	30.000	2	0.0001	-0.962	reject null
			0.000	1	1.0000	0.000	fail to reject null
G-1	Participation Experience by Group	Interview Schedule Questionnaire	18.343	3	0.0004	-0.751	reject null
			18.808	4	0.0001	-0.586	reject null

Hypothesis	Relationship Tested	Source of Data	Chi-Square	Degree of Freedom	Probability	Spearman Correlation	Decision
A-2	Self-evaluation by Level of Participation	Interview Schedule Questionnaire	1.087	4	0.8963	-0.232	fail to reject null
B-2	Attitude about Education by Level of Participation	Interview Schedule Questionnaire	10.781	4	0.0291	-0.663	reject null
		Interview Schedule Questionnaire	7.212	2	0.0272	0.246	reject null
		Interview Schedule Questionnaire	0.536	2	0.7650	-0.187	fail to reject null
C-2	Goal-Expectancy by Level of Participation	Interview Schedule Questionnaire	2.083	2	0.3529	0.323	fail to reject null
		Interview Schedule Questionnaire	2.983	2	0.2250	0.274	fail to reject null
D-2	Life Transitions by Level of Participation	Interview Schedule Questionnaire	3.250	4	0.5169	-0.128	fail to reject null
		Interview Schedule Questionnaire	0.312	2	0.8553	0.023	fail to reject null
E-2	Opportunities and Barriers by Level of Participation	Interview Schedule Questionnaire	--	0	--	--	--
		Interview Schedule Questionnaire	4.261	2	0.1188	-0.021	fail to reject null
F-2	Information by Level of Participation	Interview Schedule Questionnaire	--	0	--	--	--
		Interview Schedule Questionnaire	7.212	2	0.0272	0.246	reject null
G-2	Participation Experience by Level of Participation	Interview Schedule Questionnaire	5.000	2	0.0821	0.093	reject null
		Interview Schedule Questionnaire	3.812	4	0.432	-0.066	fail to reject null

APPENDIX N
SUMMARY OF CONSTRUCT STANCES FOR ENTIRE COR MODEL
BY INDIVIDUAL AND GROUP
(DATA FROM INTERVIEW SCHEDULE)

	Self-Evaluation			Attitude about Education			Goals and Expectations	
	Most Positive	Less Positive	Least Positive	Most Positive	Less Positive	Least Positive	Positive	Negative
Group I								
1		X		X			X	
2	X			X				X
3	X					X		X
4	X			X				X
5		X		X			X	
6	X			X			X	
7	X			X			X	
8	X			X				X
9		X		X				X
10	X			X				X
11	X			X			X	
12	X			X			X	
13			X			X	X	
14	X			X			X	
15		X		X			X	
Total	10	4	1	13	0	2	9	6
Group Percentage	66.6	26.66	6.66	86.66	0	13.34	60.00	40.00
Group II								
16	X			X			X	
17		X		X				X
18		X				X		X
19		X		X				X
20		X		X				X
21		X		X				X
22		X		X				X
23	X				X			X
24		X		X				X
25		X		X				X
26	X			X				X
27			X		X			X
28	X			X				X
29		X				X		X
30	X			X				X
Total	5	9	1	11	2	2	1	14
Group Percentage	33.14	60.00	6.66	73.34	13.34	13.34	6.66	93.34

Life Transition			Opportunities and Barriers		Information			Participation				
Level 3	Level 2	Level 1	Positive	Negative	Highest Awareness	Less Awareness	Least Awareness	Level				
								4	3	2	1	0
	X		X		X			X				
	X		X		X			X				
	X		X		X				X			
X			X		X			X				
X			X		X				X			
X			X		X			X				
	X		X		X			X				
X			X		X			X				
		X	X		X			X				
X			X		X			X				
	X		X		X			X				
X			X		X			X				
	X		X		X			X				
		X	X		X				X			
		X	X		X				X			
6	6	3	15	0	15	0	0	12	3			
40.00	40.00	20.00	100.00	0	100.00	0	0	80	20			
	X			X		X				X		
		X		X		X			X			
	X			X		X					X	
		X		X		X					X	
	X			X		X					X	
				X		X		X				
X				X		X						
	X			X		X						
	X			X		X						
		X		X		X						
	X			X		X						
				X		X						
	X			X		X						
	X			X		X						
		X		X		X						
				X		X						
2	9	4	0	15	0	12	3	2	2	7	4	
13.34	60.00	26.66	0	100.00	0	80.00	20.00	13.34	13.34	46.66	26.66	

APPENDIX O
SUMMARY OF CONSTRUCT STANCES FOR ENTIRE COR MODEL
BY INDIVIDUAL AND GROUP
(DATA FROM FACULTY QUESTIONNAIRE)

	Self-Evaluation			Attitude about Education			Goals and Expectations	
	Most Positive	Less Positive	Least Positive	Most Positive	Less Positive	Least Positive	Positive	Negative
Group I								
1	X			X			X	
2		X		X			X	
3	X			X				X
4			X	X			X	
5		X		X			X	
6		X		X			X	
7			X	X				X
8		X		X				X
9			X	X				X
10		X		X			X	
11		X		X			X	
12		X		X			X	
13			X			X	X	
14		X		X			X	
15			X	X			X	
Total	2	8	5	14	0	1	11	4
Group Percentage	13.34	53.34	33.34	93.34	0	6.66	73.34	26.66

Group II								
16	X			X				X
17			X	X				X
18			X		X			X
19	X			X				X
20		X		X				X
21			X	X				X
22			X	X				X
23			X	X				X
24		X		X	X			X
25	X			X				X
26		X		X				X
27			X	X				X
28		X		X			X	
29		X				X		X
30		X		X				X
Total	3	6	6	12	2	1	1	14
Group Percentage	10.00	40.00	40.00	80.00	13.34	6.66	6.66	93.34

[illegible]

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BIOGRAPHICAL SKETCH

Winifred Buchanan Cooke was born in Harmony, North Carolina, in 1944. She attended Lumberton Senior High School in Lumberton, North Carolina, and was graduated in 1962. She then attended Evangel College in Springfield, Missouri, and, in 1965, received a Bachelor of Science degree with a major in biology and a minor in chemistry.

For five years (1965 through 1970), she taught chemistry and advanced biology at Terry Sanford Senior High in Fayetteville, North Carolina. The last four of those years she served as coordinator of the chemistry department (four teachers).

In 1969 she was awarded a National Science Foundation grant and began work on a master's degree. During the summer of 1969, she took courses in botany from both Duke University and the University of North Carolina at Chapel Hill. She enrolled full-time at the University of North Carolina, Chapel Hill, in 1970. She was awarded a Master of Arts in College Teaching with a major in biology in 1971.

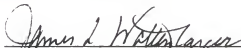
She joined the faculty of Southeastern Community College in Whiteville, North Carolina, in January of 1972. Between 1972 and 1982, she taught biology, chemistry for nurses, and student orientation courses at Southeastern. During 1974, she became director of Resources for Student Learning and her role became primarily administrative. During her years as administrator, the programs under

her supervision were awarded several national, state, and private foundation grants. The developmental studies program she directed was recognized in 1976 by the Fund for the Improvement of Postsecondary Education as one of the top 10 exemplary programs in the nation. Other programs under her supervision when she took educational leave in 1982 included a program for advanced students, the on-campus branch of an adult high school and adult basic education program, emergency medical training, all telecommunication courses, and faculty and staff development.


Between 1978 and 1981, she took several courses from North Carolina State University in adult and community education. In 1982 she was accepted by the College of Education at the University of Florida to complete work toward a Doctor of Philosophy degree in educational leadership. During this time she served as manager of the Teaching Center under the Office of Instructional Resources.

She is married to Charles Lynn Cooke of Lumberton, North Carolina. With their two children, Ryan and Elizabeth, they currently reside in Gainesville, Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


James L. Wattenbarger, Chairman
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


John M. Nickens
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Albert B. Smith, III
Professor of Educational Leadership

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May 1986


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